UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON

FEDERAL TRADE COMMISSION,

Plaintiff,

v.

AMAZON.COM, INC.,

Defendant.

Case No. 2:14-cv-01038-JCC

DECLARATION OF DANIEL HAMERMESH

I, Daniel Hamermesh, declare as follows:

1. I am a United States citizen over 18 years of age.

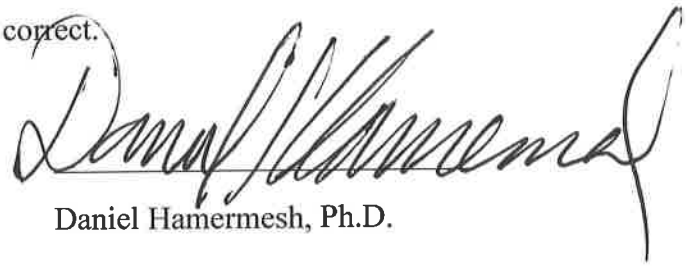
2. I am a professor of economics at Royal Holloway University of London and Sue Killiam Professor Emeritus at the University of Texas at Austin. I have been retained by the Federal Trade Commission as an expert in the above-captioned case.

3. Exhibit A to this declaration is a true and correct copy of my expert report in the above-captioned case. I hereby incorporate by reference the contents of my expert report and all accompanying appendices thereto as my sworn testimony as if fully set forth herein.

Federal Trade Commission
600 Pennsylvania Avenue N.W.
Washington, DC 20580
(202) 326-3231

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States of America, that the foregoing is true and correct.

Executed on January 26, 2016



Daniel Hamermesh, Ph.D.

Federal Trade Commission
600 Pennsylvania Avenue N.W.
Washington, DC 20580
(202) 326-3231

EXHIBIT A

REPORT OF DANIEL S. HAMERMESH, PH.D.

I have been retained by counsel for the plaintiff as an expert in the matter of *FTC v. Amazon.com, Inc.*, Case 2:14-cv-01038 (W.D. Wash. July 10, 2014). I am a professor of economics at Royal Holloway University of London and Sue Killam Professor Emeritus at the University of Texas at Austin. Over my 46-year career I have become recognized as an expert in the field of labor economics. I have worked extensively in the analysis of data involving research on time use, labor demand and other issues. I have been elected as President of the Society of Labor Economists and as a Fellow of the Econometric Society. In 2013 I was the recipient of the biennial Jacob Mincer Award for Lifetime Contributions of the Society of Labor Economists and of the annual Institute for the Study of Labor (IZA) Prize in Labor Economics. I have published over 100 refereed and other scholarly publications in this area, as reflected in my *curriculum vitae*, which is attached as Appendix A. In the past four years I have testified as an expert by deposition in *Federal Home Loan Bank of Seattle v. Bear Stearns and Co, Inc.* (Superior Court of King County, Washington, 2015). I am being compensated $500 an hour for my work on this matter.

I. Scope of Work

I have been asked by the staff of the Federal Trade Commission to value the time that users of the Amazon Appstore have spent remedying unauthorized in-app charges made by children ages 3-13.[1] More specifically, the question is whether we can translate the time spent remedying those charges into a reliable estimate of the total monetary loss to those consumers. The short answer is yes, because economic analysis allows us to estimate the value of people's non-work time in relation to the value of those same people's work time (i.e., their market wage), the theory and support for which I discuss in detail in Section II. From there, I answer two central economic questions regarding the relevant population: 1) What is the hourly market wage of the

[1]In preparing this report, I reviewed the following documents provided by the FTC: the Complaint, Amz_FTC_0001692, Amz_FTC_0005744, Amz_FTC_0001705, Amazon_00245767, and Amazon's response to the FTC's Interrogatory No. 5.

people who are affected by the these charges? and 2) How does the value of the time that those people spend having the charges removed compare to their market wage, expressed as an hourly rate? That value ultimately can be multiplied by the hours spent by the typical victim remedying the unauthorized charges and by the total number of victims to reach an estimate of the total monetary loss.

II. The Theory and Methodology Behind Valuing Non-Work Time

To answer these questions, because I cannot know the precise value of the time spent resolving these charges to each individual victim, I estimate the value of the time of a typical victim. My report focuses on the value of the time spent by the typical victim in resolving these unauthorized in-app charges. For workers the market wage is the best estimate of how they value their last hour of leisure, since, by having chosen to forego that hour in order to work, they are implicitly stating that its value is equal to the wage they can receive. Economists regularly determine the value of people's non-work time in relation to the value of those same people's work time – that is, their market wage. People will have a particular market wage, but will value their non-work time engaged in a particular activity as worth either somewhat more or less than that market wage, depending on how pleasurable the particular non-work activity is compared to leisure generally.[2]

While we do not have sufficient information about Amazon Appstore users who were billed for unauthorized in-app charges incurred by children ages 3-13 to determine the exact market wage of that group, I am able to determine the market wage of credit-card holders with children ages 3-13. The market wage for American credit-card holders with children ages 3-13 in their household is a reasonable approximation of the market wage of Amazon Appstore users who spent time remedying unauthorized in-app charges incurred by children ages 3-13,

[2]Discussion of this point is standard in undergraduate textbooks in labor economics. See the two current leaders, George Borjas, *Labor Economics*, 6th Edition, McGraw-Hill, 2013, Chapter 2, and Ronald Ehrenberg and Robert Smith, *Modern Labor Economics:Theory and Public Policy*, 11th Edition, Prentice Hall, 2012, Chapter 6.

assuming, as the FTC asked me to do, that these users were credit-card holders. I can determine the average market wage for this group using two databases: The 2012 Department of Justice National Crime Victimization Survey (NCVS) and the Merged Outgoing Rotation Groups of the Current Population Survey (CPS). Economists regularly rely on the CPS to examine the effects of workers' demographic characteristics on their earnings.[3]

Next, I determine the value of these same consumers' time spent remedying unauthorized in-app charges as compared to their market wage. While there are no studies that specifically estimate how people value their time in remedying unauthorized in-app charges, there are numerous studies about how people value their non-work time spent traveling. Based on this literature and established methodologies, I have generated a meta-analysis to find the best estimate of the value of travel time. I use travel time for my analysis because it is based on the most reliable estimates of the value of non-work time.[4] I assume that consumers do not value their time spent remedying unauthorized in-app charges in a markedly different way than they value their time spent traveling to and from work. I am not aware of any research demonstrating that consumers find their time spent remedying unauthorized charges more or less valuable than their time spent traveling to and from work. For purposes of this analysis, the most reliable estimate of non-work time available is based on travel time.

III. The Hourly Wage of Amazon Appstore Users

As described in Section II above, I begin by estimating the average hourly wage of Amazon Appstore users with children ages 3-13 using the average hourly wage of credit-card

[3]Predicting wage rates from regressions on data from household surveys such as the one used here is so standard in the economics literature as hardly to merit a mention today. One early example among numerous others is Finis Welch, "Black-White Differences in Returns to Schooling," *American Economic Review*, 63 (1973): 893-907. Daniel Hamermesh, "12 Million Salaried Workers are Missing," *Industrial and Labor Relations Review*, 55 (2002): 649-66, is one of many doing this using the CPS.

[4]Estimates of the value of travel time have been used in non-travel contexts before, including measuring the value to society of creating recreation sites, such as dammed-up lakes, (Douglas Larson and Sabina Shaikh, "Recreation Demand Choices and Revealed Values of Leisure Time," *Economic Inquiry*, 42 (2004): 264-78, and its many references); and in valuing the removal of dams, (John Loomis, "Quantifying Recreation Use Values from Removing Dams and Restoring Free-Flowing Rivers," *Water Resources Research*, 38 (2002): 2-1—2-8).

holders with children ages 3-13. The 2012 NCVS provides detailed demographic information on a random sample of Americans, allowing us to infer the characteristics of credit-card holders with children ages 3-13 (their age, education, race, and Hispanic status). Information about people's credit-card holdings is included in the NCVS. Using this information, we can get the best possible estimate of the wage of the average credit-card holder with young children. The timing of the 2012 NCVS (last half of 2012) means that it was fielded almost in the middle of the period from November 2011 to June 2014, which is the period that the FTC asked me to consider. Therefore, the NCVS should be representative of people holding credit cards during this time period.

To determine the hourly wage of a person with demographic characteristics of the average cardholder, I use data on earnings from a national sample to estimate a linear regression relating the logarithm of weekly earnings to sample respondents' age, education, race and ethnicity. Using these estimates, I predict the average hourly wage of the typical victim by plugging into the regression equation the characteristics of such victims from the data in the NCVS. The national sample provides the required data on earnings and demographics, and the NCVS provides the estimates of victims' characteristics that I match to the regression estimates.

I first estimate the determinants of the weekly earnings of the typical American worker during the time of the unauthorized charges using the CPS for November 2011 through June 2014. I choose those CPS months and years to correspond exactly to the period the FTC asked me to consider. I restrict the CPS sample to people who have children between ages 3 and 13 inclusive, thus matching these data as closely as the CPS allows to adults in households where children might have made unauthorized in-app purchases in the Amazon Appstore.

The results of this estimation (describing the logarithms of usual weekly earnings by the demographic characteristics age, education, race and Hispanic status, separately for men and women) are completely standard: Higher earnings are observed for the more educated, for

males, for non-Hispanic whites, and for people of prime working age. Using the same data, we describe each person's weekly work hours by these same variables. The specific econometric estimates predicting weekly earnings and hours are presented in Appendix B to this Report.

Applying the estimates of the determinants of weekly earnings and weekly hours from these equations, we can impute the logarithms of weekly earnings W^* and weekly hours H^* to credit-card holders with children ages 3-13 in the NCVS (since the NCVS contains all the demographic variables). I then calculate $exp[lnW^* - lnH^*]$ to obtain an estimate of the average hourly wage, w^*, of the typical victim. Since the regression estimates predicted logarithms, this equation just converts the logarithms of predicted weekly earnings and hours into predicted hourly wages. This conversion yields an imputed average hourly wage rate over the period November 2011 through June 2014 (the sample period) for male credit-card holders with children ages 3-13 of $20.52, and for female credit-card holders with children ages 3-13 of $15.33.[5]

This approach values non-workers' time at the wage rate of people with the same demographic characteristics, as is standard in the literature. There is a self-selection problem here, because those who do not work are not working because the value of their time at home, out of the work force, is greater than the wage they could obtain.[6] This means that to some extent the estimates of wages understate how the average credit-card holder with young children present values his or her time.

This approach to estimating the hourly wage rate of the typical victim is more accurate than it would be to assume that victims of the unauthorized charges earn the average hourly wage

[5]The document Amz_FTC_0001692 through Amz_FTC_0001703 provides some statistics specifically describing the demographics of Kindle Fire users, although regrettably it does not cross-classify them by the presence or ages of children in the household. Nonetheless, using age, race, ethnicity and education from those documents changes the predicted hourly wage rates only slightly, raising the men's predicted average to $23.30, and the women's average to $21.22. I use the lower figures in the text to err on the conservative side.

[6]See Reuben Gronau, "Wage Comparisons—A Selectivity Bias," *Journal of Political Economy*, 82 (1974): 1119-43, and James Heckman, "Shadow Prices, Market Wages, and Labor Supply," *Econometrica*, 42 (1974): 679-94.

in the U.S. (The average hourly wage for all workers in these CPS data was $25.00 and $20.87 among males and females respectively during this period.) While credit-card owners are more highly educated, more likely to be early middle-aged, white and non-Hispanic than other Americans, the restriction to having children ages 3-13 in the household removes a disproportionate number of prime-age earners, and especially impacts the estimated average earnings of women.

IV. The Value of Time Spent Remedying Unauthorized Charges

I next estimate the value of a typical victim's time in remedying unauthorized in-app charges as compared to the victim's hourly wage. We can think of it as an equation: $v = xw^*$, where v is the value of the typical victim's time spent on this activity, w^* is the hourly wage of the typical victim, and x is some number, perhaps less than 1, perhaps greater than 1, indicating how a person values time spent outside the market—specifically in remedying unauthorized in-app charges.

To estimate x in this equation I have conducted a meta-analysis of numerous economic studies to derive a conservative estimate of the value of people's non-work time in relation to their market wage. As one might expect, there are no economic studies comparing the value of time spent remedying unauthorized in-app charges as compared to the wage one receives for market work. In the context, however, of estimating the value of travel time, economists have produced numerous estimates of how people value their non-work time. These estimates have been crucially important in calculating the social benefits to speeding up transportation, for example, to building a new highway that reduces commuting time. The large number of estimates of x in this context that have been produced in the U.S. and elsewhere over a long period of time enables me to pin down how people value their non-market time.

These estimates have been produced using two distinct but related methods. Studies using the first method have examined people's actual choices among methods of transportation

that differ in the time that each takes to move between two points and in the monetary cost of those choices. Studies using the second method have asked people what choices they would make among different transportation modes/routes under various scenarios of time and money spent on those modes—so-called contingent valuation studies. In both cases the money that people are willing to spend to save an hour of travel time is an indication of the value of their time (*VOT*) in the non-work activity of travel. Thus to obtain the best estimate of *x* I examine studies that have produced estimates of *VOT*/*AHE*, where *AHE* is the average hourly earnings of the study's subjects, or that have generated estimates of *VOT* that I can combine with the estimates that I have made of the *AHE* of subjects included in the study.

In generating this meta-analysis I have found 32 studies that I can use to create estimates of *x*, of which 12 were for the United States. (A spreadsheet listing these studies and their estimates is Appendix C of this report.) In addition, a meta-analysis published in 2007 by Zamparini and Reggiani provides a list of 64 other studies measuring *x* describing people's valuations of time spent in non-business travel.[7] (Appendix D of this report lists these 64 studies, along with the studies of business travel that I exclude here.)

These 96 studies measuring *VOT* and comparing it to *AHE* allow me to conduct a meta-analysis of estimates of the value of non-market time, in particular, to derive a conservative estimate of *x*. In order to obtain more contemporary estimates I focus particularly on studies published in the last decade (2004 or later), giving 28 studies in total, of which 11 were based on American data.

To provide a feel for these estimates, Figures 1 and 2 graph the distributions of the estimated *x* for all 96 estimates and for those 28 published in 2004 or later. Figures 3 and 4 show the dispersion of the estimates in the 28 American studies, and then in those 11 American studies

[7]Luca Zamparini and Aura Reggiani, "A Meta-Analysis and the Value of Travel Time Savings: A Transatlantic Perspective in Passenger Transport," *Networks and Spatial Economics*, 7 (2007): 377-96.

published in 2004 or later. Clearly, the American studies are more relevant for the purpose of obtaining the best estimate of *x* in this case, which focuses on American consumers, and that is especially true for the more recent American studies. Nonetheless, examining foreign and older estimates provides a helpful perspective on the more recent U.S. studies and obviates the need to rely on relatively few pieces of empirical research.

The Figures demonstrate that the estimates of *x* are quite widely dispersed. Given the different sources of data, methodologies and time periods studied, such dispersion is to be expected. Nonetheless, as the Figures demonstrate, the estimates of x appear to be centered somewhere between 0.5 and 1.0.

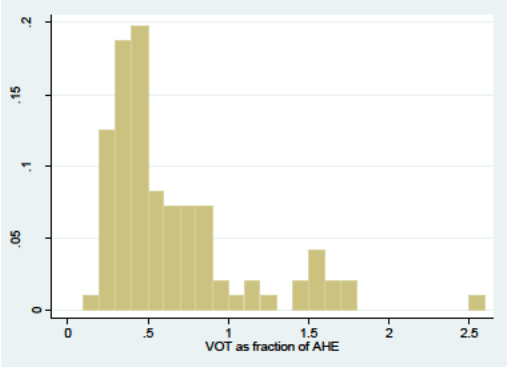


Figure 1. Distribution of Estimates of *x* from 96 Studies

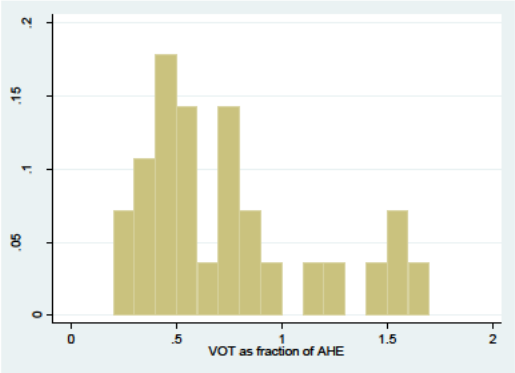


Figure 2. Distribution of Estimates of *x* from 28 Studies Published 2004 or Later

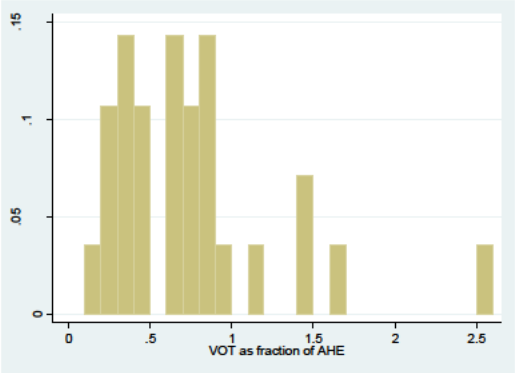


Figure 3. Distribution of Estimates of *x* from 28 U.S. Studies

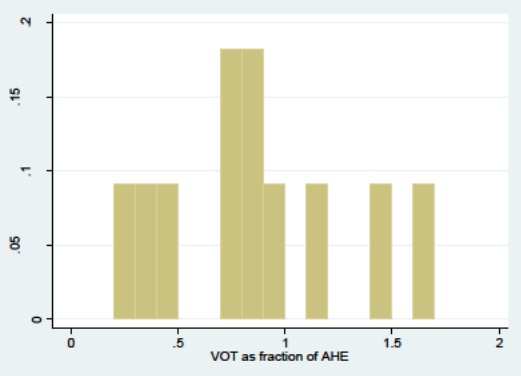


Figure 4. Distribution of Estimates of *x* from 11 U.S. Studies Published 2004 or Later

To pin down a reasonable, but conservative estimate of *x* from my meta-analysis of these studies, I considered the median values in the studies, their means and, most important, the 95-percent confidence intervals around those means, which are shown in Table 1. These last offer a fairly tightly estimated range to which to restrict the estimates, thus removing outliers from among the studies. The median estimate of *x* is always nearly 0.5 or greater; the means of the estimates are around two-thirds or greater; and even the lower limits of the 95-percent confidence intervals are around 0.55.

Table 1. Estimates of the Value of Time as Fraction of Average Hourly Earnings (*VOT/AHE*) (Median, Mean, 95-Percent Confidence Interval, Number of Studies)*

All Studies	0.48 0.65 [0.56, 0.74] 96	**U.S. Studies**	0.64 0.74 [0.54, 0.95] 28
Recent Studies (Published 2004-)	0.62 0.74 [0.58, 0.90] 28	**Recent U.S. Studies** (Published 2004-)	0.82 0.85 [0.55, 1.15] 11

*I tabulated/calculated data from 28 recent studies and 4 others from the recent literature. 64 of the 68 earlier studies are taken from the survey by Zamparini and Reggiani (2007).

A comparison of the summaries of all studies and the U.S. studies in the table suggests that at any time the estimated *x* is higher for the U.S. than elsewhere. This impression is corroborated by the formal analysis of these data reported in Appendix E: At the same point in time the implied value of *x* in the American studies is 0.25 higher than that in other countries that have been studied.[8]. That formal analysis also demonstrates that the median estimated value of *x* has been rising by 0.005 per annum over the nearly fifty-year period covered by these estimates.

Taking all this information together, a reasonable, but very conservative value to use for *x* is 0.55—i.e., a figure that implies that people value their non-work time at slightly more than half of the average hourly wage that they would earn in market work. Using $x = 0.55$ is very conservative (low) for a variety of reasons:

1. As the estimates in Table 1 show, 0.55 is far below the median and mean values estimated in recent U.S. studies. Indeed, it equals the bottom limit of the 95-percent confidence interval around the best estimate. This implies that

[8]I estimated a median regression of *x* against an indicator for the U.S. and a continuous measure of the year the study was published. The results are shown in Appendix E to this Report.

we can be 95-percent certain that the true *x* in the U.S. in recent times is at least 0.55, well below the median and mean found in all U.S. studies, and even further below those statistics characterizing recent U.S. studies.

2. In estimating *x* from the *VOT* in the 32 studies that were not in the older meta-analysis (Zamparini and Reggiani, 2007), I used recently available *AHE* for each country, with the *AHE* typically measured more recently than the date for which the *VOT* was produced. This means, given the growth in hourly wages that occurs over time, that I have overestimated the *AHE* used to calculate *x* in most of the 32 studies, thus lowering further the estimates of *x* = *VOT*/*AHE* that underlie Table 1.
3. The studies typically estimated *VOT* for regular commuting or leisure travel, travel that is expected or planned. They did not adjust for unexpected events and/or the reliability of travel. Much of the recent literature in this area has focused on the role of travel reliability in affecting the *VOT*, with the evidence suggesting that *VOT* is higher in unplanned or unexpected travel.[9] Since remedying an unauthorized in-app charge is necessarily unplanned, using *x* unadjusted for this uncertainty is one more reason why 0.55 represents an underestimate of *x* for the purpose of valuing time used in this activity.

V. Calculating the Total Monetary Loss for Time Spent Remedying Unauthorized In-App Charges

To estimate *v*, the value of time spent per hour in remedying unauthorized credit-card charges, I combine the estimates of w^* (the average hourly wage of victims) produced in Section III and of *x* produced in Section IV. The best estimate of the value of an hour of time, *v*, that men spent on this activity between 2011 and 2014 is $11.29 (0.55 x $20.52), while the best estimate for women is $8.43 (0.55 x $15.33). Because we do not know the gender mix of those whose time was spent remedying the charges, I shall assume that the typical victim was

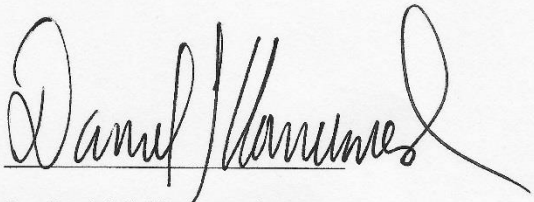
[9]See, for example, Mickaël Beaud *et al*, "Value of Travel Time Reliability," *Procedia: Social and Behavioral Sciences*, 54 (2012): 349-56, and the many references it contains.

as likely to be a male as a female, and take the average of these two losses, $9.86, as the loss per hour spent by the typical victim.

Since the losses occurred between 2011 and 2014, this figure must be inflated to account for the interest that the victims would have received on the value of their time had they been compensated immediately for their losses. I therefore compound these values from the mid-point of the charges, February 2013, to October 2015, using the interest rate obtainable on 3-year Treasury notes in February 2013 to obtain the estimated present value of victims' losses as of October 2015.

This compounding multiplies this value by 1.022, yielding the best estimate of the present value as of October 2015 of the time spent remedying the erroneous charges as **$10.08** per hour spent (1.022 x $9.86). As explained throughout this report, this estimate is conservative—lower than what is probably the correct but unknowable value of the hourly cost of time spent attempting to remedy the charges.

In order to calculate the total monetary loss arising from time spent by consumers in remedying these unauthorized charges, one would multiply $10.08 by the hours (including fractional parts of an hour) that the typical victim spent remedying these charges and then multiply that figure by the total number of consumer victims.



By: Daniel S. Hamermesh, Ph.D.

October 15, 2015

June 2015

Curriculum Vitae

DANIEL S. HAMERMESH

ADDRESSES: Offices:
Department of Economics
2225 Speedway Avenue
Austin, TX 78712 USA
Telephone: 1 512 475 8526

Home:
300 Bowie Street, #1303
Austin, TX 78703
Telephone: (512) 206-0908, Home
(512) 350-7364, US Cell
Website:
http://www.utexas.edu/cola/depts/economics/faculty/hamermes
Blog: https://utexas.app.box.com/hamermesh-econ-thought

Department of Economics
302 Horton Building
Egham, Surrey TW20 0EX
United Kingdom
Telephone: 44 075 0606 1237 (UK Mobile)
E-Mail: hamermes@eco.utexas.edu
Daniel.Hamermesh@rhul.ac.uk
Skype address: daniel.s.hamermesh

EDUCATION: Ph.D. Yale University, 1969
A.B. University of Chicago, 1965

FELLOWSHIPS, HONORS AND AWARDS:

IZA Prize in Labor Economics, 2013.
Jacob Mincer Award for Lifetime Contributions to the Field of Labor Economics, Society of Labor Economists, 2013 (awarded biennially).
John R. Commons Award, International OΔE (Economics Honor Society), 2013 (awarded biennially).
Professor of Excellence, University of Texas at Austin, 2012.
Humboldt Foundation Research Prize, 2011.
University of Texas President's Associates Teaching Excellence Award, 2007-08.
Texas Blazers, Faculty Excellence Award, 2007.
American Economic Association, Committee on the Status of Women in the Economics Profession, 2003-06.
Fellow, Society of Labor Economists, elected 2003.
American Economic Association, Committee on Economic Education, 2000-06.
Society of Labor Economists, President, 2000-01; 1st Vice-President, 1999-2000; 2nd Vice-President, 1998-99.
Research Fellow, Forschungsinstitut zur Zukunft der Arbeit IZA), 1998- ; Program Director, 2001- 2008; Research Director, 2008-2009.
Fellow, Econometric Society, elected 1996.
Outstanding Professor Award, 1995-96, University of Texas, Department of Economics.
Outstanding Teacher of Freshmen, 1996, University of Texas Freshman Honor Societies ΦΕΣ and ΑΛΔ.
Economics Advisory Panel, Natl. Science Foundation., 1995-97.
American Economic Association, Nominating Committee, 1996.
University of Texas Parents' Association Centennial Teaching Fellow, 1995-96.
Michigan State University, Distinguished Faculty Award, 1992.
Member, National Academy of Social Insurance, 1990- .
Program Committee, Econometric Society, 1989 Summer Meetings.
Best Economic Inquiry article, 1987.
Midwest Economics Association, President, 1988-89; 2nd Vice-President, 1982-83.
WHO'S WHO IN ECONOMICS, all editions.
WHO'S WHO IN AMERICA, editions since 1982-83.
Member, Conference on Income and Wealth, 1980-
Research Associate, National Bureau of Economic Research, 1980- .
Ford Dissertation Fellow, 1967-1968.
Woodrow Wilson Fellow, 1965-1966.
Phi Beta Kappa.

EDITORIAL SERVICE:

Advisory Board, Research in Labor Economics, 2011-.
International Editorial Board, Industrial and Labor Relations Review, 2011-.
Editorial Board, Industrial and Labor Relations Review, 1999-2004; Associate Editor, 2004-11.
Associate Editor, European Economic Review, 2003-2005.
Associate Editor, Labour Economics, 1991-96, 2000- ; Co-Editor, 1996-2000.
Editor, Journal of Population Economics, 2001-04.
Co-Editor, Economics Letters, 1994-98.
Board of Editors, Journal of Economic Integration 1994-2002.
Board of Editors, Labour, 1991-96.
Board of Editors, American Economic Review, 1990-94.
Editorial Board, Journal of Economics and Business, 1983-86.
Editorial Board, Quarterly Review of Economics and Business, 1979-89.

ACADEMIC POSITIONS:

Professor of Economics, Royal Holloway University of London, 2012- .
Sue Killam Professor in the Foundations of Economics, University of Texas at Austin, 2008-2014, Emeritus, 2014-.
Edward Everett Hale Centennial Professor, University of Texas at Austin, 1993-2008.
Professor of Labor Economics, Maastricht University, Netherlands, 2009-2012.
Professor, Michigan State University, 1976-1993.
Associate Professor, Michigan State University, 1973-1976.
Assistant Professor, Princeton University, 1969-1973.
Academic Visitor, Paris School of Economics, Paris-1, Summer 2014.
R.I. Downing Fellow, University of Melbourne, Summer 2013.
Visiting Professor, University of Michigan, Winter 2004.
Hooker Professor, McMaster University, Spring 2003.
Visiting Professor, Academia Sinica,Taiwan, Summer 2002.
Visiting Professor, University of Aberdeen, Spring 2002.
Benjamin Meaker Professor, University of Bristol, Spring 2000.
Tinbergen Professor, Erasmus University Rotterdam, Netherlands, Summer 1997.
Bogen Professor, Hebrew University, Israel, Summer 1995.
Visiting Professor, New Economic School, Russian Academy of Sciences, Spring 1993.
Visiting Scholar, Western Michigan University, Fall 1992.
Visiting Professor, Rijksuniversiteit Limburg, Netherlands, Summer 1992, July 1996.
Visiting Fellow, Australian National University, Winter 1991.
Visiting Professor, Gadjah Mada University, Indonesia, Summer 1990.
Visiting Professor, La Trobe University, Australia, Summer 1987.
Academic Visitor, London School of Economics, Summer 1981.
Visiting Professor, Harvard University, Spring 1981.
Visitor, University of Essex, Fall 1971.
Acting Instructor, Yale University, 1968-1969.
Assistant Professor, Dalhousie University, Summer 1968.

KEYNOTE SPEECHES AND ENDOWED LECTURES:

SKI-Note Lecture, Alp(ine-Pop(ulation) Conference, Villars sur Ollon, Switzerland, January 2016.
Plenary Lecture, History of Economics Society Annual Meeting, June 2015.
Martin C. Speichler Endowed Lecture, IUPUI, April 2015.
Willis Group Distinguished Lecture Series, University of Houston-Victoria, November 2014.
Endowed Lecture, University Speaker Series, South Dakota State University, September 2014.
Keynote Lecture, Conference on Time Use, National Institute for Demographic Studies, Paris, May 2014.
Inaugural Lecture, Royal Holloway University of London, January 2014.
Steine Lecture, Vanderbilt University, September 2013.
Downing Lecture, Melbourne University, August 2013.
Keynote Speech, Northwest England Ph.D. Conference, May 2013.

Keynote Lecture, Potsdam Ph.D. Workshop in Empirical Economics, March 2013.
Principal Speech, Festival dell'Economia, Trento, Italy, June 2011.
Keynote Speech, Ruhr Graduate School Doctoral Conference in Economics, February 2011.
Keynote Lecture, Workshop in Labour Economics, University of Mainz, February 2011.
Plenary Speaker, Economics Teaching Workshop, Wrightsville Beach, NC, October 2010.
Humboldt Lecture, Humboldt University Berlin, July 2010.
Inaugural Lecture, Maastricht University, April 2010.
Keynote Speech, ATUS Research Conference, June 2009.
Joe Tiao Lecturer, Kansas State University, April 2009.
Athenaeum Lecturer, ClaremontMcKenna College, March 2009.
Keynote Address, International Association for Time Use Research, October 2007.
Keynote Address, New Zealand Association of Economists, June 2007.
Van Dyck Lecturer, Franklin and Marshall College, November 2006.
Keynote Address, Conference on the Analysis of Firms and Employees, Nuremberg, Germany, September 2006.
Grossman Lecturer, Colby College, April 2006.
Georgescu-Roegen Lecturer, University of the South, March 2006.
Keynote Address, Work Pensions and Economic Study Group Conference, York, England, Summer 2005.
Keynote Address, Chinese Economic Society, Chongqing, China, Summer 2005.
Hightower Lecturer, Emory University, April 2005.
Keynote Address, National Council on Economic Education, Little Rock, Fall 2004.
Invited Address, Aarhus School of Business, Denmark, Spring 2004.
Honors Convocation Address, University of Texas, College of Liberal Arts, Spring 2004.
Association Lecture, Southern Economic Association, San Antonio, Fall 2003.
Hooker Distinguished Professor, McMaster University, Canada, Spring 2003.
Keynote Address, 10th Anniversary Celebration, New Economic School, Moscow, Dec. 2002.
Keynote Address, Conference on Labor Markets in Transition and Developing Countries, San Jose, Costa Rica, April 2002.
Presidential Address, Society of Labor Economists, Austin, Spring 2001.
Keynote Address, European Society of Population Economics, Bonn, Summer 2000.
Keynote Address, NSF-World Bank Conference on Linked Employer-Employee Data, Washington, Spring 1998.
Erickson Lecture, Southwest Texas State University, Spring 1998.
University Forum Distinguished Speaker, University of Southern Mississippi, Spring 1998.
Keynote Address, European Association of Labor Economists, El Escorial, Spain, Fall 1991

GOVERNMENT AND RELATED SERVICE:

Member, Board of Trustees, OΔE, 2014-18.
Member, U.S. Bureau of Labor Statistics, Technical Advisory Committee, 2012-2015.
Chair, Scientific Advisory Committee, and Member, ex officio, Board of Trustees, German Institute for Economic Research, (DIW), 2003-2009.
Member, Panel on Design of Nonmarket Accounts, National Academy of Sciences, 2002-04.
Member, Advisory Board, German Socioeconomic Panel, 1998-2004; chair, 2000-04.
Member, Committee on Attracting Science and Mathematics Ph.D.s to Secondary School Teaching, National Academy of Sciences, 1999-2000.
Member, Committee on Methods of Forecasting Demand and Supply of Doctoral Scientists and Engineers, National Academy of Sciences, 1997-99.
Consultant, Interamerican Development Bank, 1997-2000.
Consultant, World Bank, 1990-94.
Consultant, Organization for Economic Cooperation and Development, 1983-85.
Member, Full Employment Advisory Committee, Michigan Department of Labor, 1980-82.
Member, Technical Advisory Board, National Commission on Unemployment Compensation, 1978-80.
Director, Office of Research-ASPER, U.S. Department of Labor, 1974-75.

EDUCATIONAL ADMINISTRATION:

Director, Center for Applied Research in Economics, University of Texas at Austin, 1993-98.
Chair, Committee Z (Economic Status of the Profession), American Association of University Professors, 1991-96; 2001-02.
Chairperson, Department of Economics, Michigan State University, 1984-88.
Director of Graduate Programs in Economics, Michigan State University, 1976-80.

COURSES TAUGHT:

Microeconomic Principles; Economics of Labor (All Levels); Economics of Life; Undergraduate Statistics; Undergraduate Econometrics; Macroeconomic Principles; Intermediate Microeconomics; Intermediate Macroeconomics; Applied Econometrics; Graduate Production Theory.

PROFESSIONAL SOCIETIES:

American Economic Association.
Society of Labor Economists.
European Association of Labor Economists

GRANTS AND CONTRACTS:

Department of Agriculture, "Goods, Grazing and Girth," 2006-10.
Thyssen Foundation, "Workshop on Nonmarket Time in Economics", 2006-07.
Volkswagen Foundation, "Workshop on the Well-Being of the Elderly" 2005-06.
Department of Agriculture, "How Americans Eat: Time and Goods Inputs Into Meals," 2004-06.
Department of HHS, Social Security Administration, "Time Use of Older Americans," 2004-05.
Alfred P. Sloan Foundation, "An Economic Approach to the 'Time Crunch,'" 2002-04.
Andrew Mellon Foundation, "Does College Major Matter?" 2002-05.
National Science Foundation, Grant No. SBR-9904699, "Timing and Time Use," 1999-2003.
United States Israel Bi-National Science Foundation, "The Allocation of Time: What, When and With Whom," 1999-2002.
Alfred P. Sloan Foundation, "Implications of the Changing Timing of Work," 1999-2001.
Russell Sage Foundation, Grant No. 85-97-03, "The Changing Distribution of Workplace Disamenities" 1996-99.
National Science Foundation, Grant No. SBR-9422429, "The Timing of Work: A Research Agenda," 1995-99.
Employment Policies Institute, "The Effects of Raising the Tax Base for Unemployment Insurance," 1995-96.
Advisory Council on Unemployment Compensation, "The Adequacy of Unemployment Benefits," 1995-96.
W.E. Upjohn Institute, Grant No. 93-28, "New Dimensions of Work Time," 1993-95.
Alfred P. Sloan Foundation, "Labor Demand," 1990-91.
National Science Foundation, Grant No. SES-8821399 "Discrete Adjustment of Labor Demand," 1989-91.
Department of Labor, Contract No. 99-9-4767-75-020-04, "Experience Rating and Labor Demand," 1989.
National Science Foundation, Grant No. SES-8408206, "Microeconomic Studies of Labor Demand," 1984-86.
University of Wisconsin, Institute for Research on Poverty, "Worker Displacement," 1983-84.
Alfred P. Sloan Foundation, "Studies of Wage Dynamics," 1982-83.
National Science Foundation, Grant No. DAR-8008458, "Consumption, Retirement, and Changing Life Expectancy," 1980-82.
Minimum Wage Study Commission, Contract No. J-9-M-0-0078, "Measures of Labor Costs," 1980-81.
National Commission on Manpower Policy, Purchase Order No. 99-9-2264-5-36, "Labor Market Substitution," 1979.
W.E. Upjohn Institute, Grant No. 78-04-10, "Unemployment Insurance and the Older American," 1978-80.
National Commission on Unemployment Compensation, Grant No. 99-9-826-29-5, "Unemployment Insurance and Consumption," 1978-80.
Department of HEW, Social Security Administration, Grant No. 10-P90313/5-a, "Two Studies in the Shifting of Taxes on Labor," 1976-78.
National Commission on Employment Policy, "Jobless Pay," 1975-77.
Department of Labor, Contract No. DL 74-52, "The Economics of Job Satisfaction," 1973-74.

Department of Labor, Grant No. 91-34-72-51, "The Optimal Timing of Training Subsidies," 1971-73.

REFEREED ARTICLES

"Endophilia or Exophobia: Beyond Discrimination," Economic Journal, 2016 (with J. Feld and N. Salamanca).

"Long Workweeks and Strange Hours," Industrial and Labor Relations Review, 2016 (with. E. Stancanelli).

"'Beauty Is the Promise of Happiness'?" European Economic Review, November 2013 (with J. Abrevaya).

"A Gift of Time," Labour Economics, 2013 (with D. Kawaguchi and J. Lee).

"Wage Discrimination over the Business Cycle," IZA Journal of Labor Policy, 2013 (with J. Biddle).

"How Do Immigrants Spend Time? The Process of Assimilation," Journal of Population Economics, April 2013 (with S. Trejo).

"Age, Education and Earnings in the Course of Brazilian Development: Does Composition Matter?" Demographic Research, March 2013 (with E. Amaral, J. Potter and E. Rios-Neto)

"Total Work and Gender: Facts and Possible Explanations," Journal of Population Economics, January 2013 (with M. Burda and P. Weil).

"Tall or Taller, Pretty or Prettier? Is Discrimination Absolute or Relative?" IZA Journal of Labor Economics, Summer 2012 (Vol. 1 No. 1)

"The Timing of Labor Demand," Annales d'Économie et de Statistique, 2012 (with A. Cardoso and J. Varejao).

"Charity and Favoritism in the Field: Are Female Economists Nicer (To Each Other)?" Review of Economics and Statistics, January 2012(with J. Abrevaya).

"Reputation and Earnings: The Roles of Quality and Quantity in Academe," Economic Inquiry, January 2012, (with G. Pfann).

"Strike Three: Discrimination, Incentives and Evaluation," American Economic Review, June 2011 (with C. Parsons, J. Sulaeman and M. Yates).

"Unemployment, Market Work and Household Production," Economics Letters, May 2010, (with M. Burda)

"Incentives, Time Use and BMI: The Roles of Eating, Grazing and Goods," Economics and Human Biology, March 2010.

"A Structural Model of the Fixed Time Costs of Market Work," Economics Letters, September 2009, (with S. Donald).

"Two-Sided Learning, with Applications to Labor Turnover and Worker Displacement," Jahrbücher für Nationalökonomie und Statistik, December 2008, (with G. Pfann).

"The Demand for Variety: A Household Production Perspective," Review of Economics and Statistics, August 2008 (with R. Gronau).

"The Effect of College Curriculum on Earnings: An Affinity Identifier for Non-Ignorable Non-Response Bias," Journal of Econometrics, June 2008 (with S. Donald).

"Cues for Timing and Coordination: Latitude, Letterman and Longitude," Journal of Labor Economics, April 2008 (with C. Myers and M. Pocock).

"Direct Estimates of Household Production," Economics Letters, January 2008.

"The Economics of Workaholism: We Should Not Have Worked on This Paper," Contributions to Economic Analysis and Policy, January 2008 (with J. Slemrod).

"Time to Eat: Household Production under Increasing Income Inequality," American Journal of Agricultural Economics, November 2007.

"Stressed Out on Four Continents: Time Crunch or Yuppie Kvetch," Review of Economics and Statistics, May 2007 (with J. Lee).

"Changing Looks and Changing Discrimination: The Beauty of Economists," Economics Letters, December 2006.

"What is Discrimination? Gender in the American Economic Association," American Economic Review, September 2006, (with S. Donald).

"Time vs. Goods: The Value of Measuring Household Production Technologies," Review of Income and Wealth, March 2006 (with R. Gronau).

"Beauty in the Classroom: Instructors' Pulchritude and Putative Pedagogical Productivity," Economics of Education Review, August 2005 (with A. Parker).

"Routine," European Economic Review, January 2005. Also in D. Hamermesh and G. Pfann, eds., The Economics of Time Use , 2005.

"The Determinants of Econometric Society Fellows Elections," Econometrica, January 2003 (with P. Schmidt).

"Timing, Togetherness and Time Windfalls," Journal of Population Economics, November 2002.

"Dress for Success: Does Primping Pay?" Labour Economics, October 2002 (with M. Xin and J. Zhang).

"Tools or Toys? The Impact of High Technology on Scholarly Productivity," Economic Inquiry, October 2002, (with S. Oster).

"12 Million Hourly Employees Are Missing," Industrial and Labor Relations Review, July 2002.

"How Grievous Was the Biblical Famine?" Economics Letters, February 2002.

"The Changing Distribution of Job Satisfaction," Journal of Human Resources, Winter 2001.

"The Craft of Labormetrics," Industrial and Labor Relations Review, April 2000.

"Business Success and Businesses' Beauty Capital," Economics Letters, April 2000, (with G. Pfann, J. Biddle and C. Bosman).

"The Demand for Hours of Labor: Direct Evidence from California," Review of Economics and Statistics, February 2000, (with S. Trejo), (reprinted in J. Addison, Recent Developments in Labor Economics, Edward Elgar Publishing, 2007).

"Changing Inequality in Markets for Workplace Amenities," Quarterly Journal of Economics, November 1999.

"Policy Equilibria in a Federal System: The Effects of Higher Tax Ceilings for Unemployment Insurance," Journal of Public Economics, November 1999 (with D. Scoones).

"Crime and the Timing of Work," Journal of Urban Economics, March 1999.

"The Timing of Work over Time," Economic Journal, January 1999.

"Unemployment Insurance and Household Welfare: Microeconomic Evidence, 1980-93," Research in Employment Policy, 1998 (with D. Slesnick).

"Age and Productivity Among Economists," Review of Economics and Statistics, February 1998, (with S. Oster). (Reprinted in Joshua Gans, Publishing Economics: Analyses of the Academic Journal Market in Economics. Elgar, 2000)

"Beauty, Productivity and Discrimination: Lawyers' Looks and Lucre," Journal of Labor Economics, January 1998 (with J. Biddle).

"Turnover and the Dynamics of Labour Demand," Economica, August 1996, (with G. Pfann).

"Labour Demand and the Source of Adjustment Costs," Economic Journal, May 1995.

"Beauty and the Labor Market," American Economic Review, December 1994 (with J. Biddle). (Reprinted as "La belleza y el Mercado de trabajo," Revista Economía y Desarollo, 2002; in J. Addison, Recent Developments in Labor Economics, Edward Elgar Publishing, 2007; in L. Guererro and M. Hecht, The Nonverbal Communication Reader, Waveland Press, 2008).

"Gender Discrimination by Gender: Voting in a Professional Society," Industrial and Labor Relations Review, July 1994 (with A. Dillingham and M. Ferber).

"Hedonic Price Indexes for Personal Computers: Intertemporal and Interspatial Comparisons," Economics Letters, April 1994 (with Z. Griliches).

"A General Model of Dynamic Labor Demand," Review of Economics and Statistics, November 1992.

"Taxes, Fringe Benefits, and Faculty," Review of Economics and Statistics, May 1992 (with S. Woodbury).

"Unemployment Insurance, Short-time Compensation and Labor Demand," Research in Labor Economics, 1990, also in U.S. Department of Labor, National Commission on Workforce Quality and Labor Market Efficiency, Investing in People, 1989.

"Aggregate Employment Dynamics and Lumpy Adjustment Costs," Carnegie-Rochester Conference Series on Public Policy, Fall 1990.

"Sleep and the Allocation of Time," Journal of Political Economy, October 1990 (with J. Biddle). (Reprinted in S Zamagni and Elettra Agliardi, Time in Economic Theory. Edward Elgar Publishing, 2003; and in J. Addison, Recent Developments in Labor Economics, Edward Elgar Publishing, 2007)

"Compensating Wage Differentials and the Duration of Wage Loss," Journal of Labor Economics, January 1990 (with J. Wolfe).

"Shirking or Productive Schmoozing: Wages and the Allocation of Time at Work," Industrial and Labor Relations Review, January, 1990.

"Labor Demand and the Structure of Adjustment Costs," American Economic Review, September 1989 (reprinted in O. Ashenfelter and K. Hallock, eds., Labor Economics, Edward Elgar Publishing, 1995; and in J. Addison, Recent Developments in Labor Economics, Edward Elgar Publishing, 2007).

"Why Do Individual Effects Models Perform So Poorly? The Case of Academic Salaries," Southern Economic Journal, July 1989.

"What Do We Know About Worker Displacement in the United States?" Industrial Relations, Winter 1989.

"Plant Closings and the Value of the Firm," Review of Economics and Statistics, November 1988.

"Inflation, Indexation and Wage Dispersion," Economics Letters, December 1987 (with A. Drazen).

"The Costs of Worker Displacement," Quarterly Journal of Economics, February 1987.

"Planned and Unplanned Bequests," Economic Inquiry, January 1987 (with P. Menchik).
"Inflation and Labour Market Adjustment," Economica, February 1986.

"Expectations, Life Expectancy and Economic Behavior," Quarterly Journal of Economics, May 1985.

"Life Cycle Effects on Consumption and Retirement," Journal of Labor Economics, July 1984.

"Consumption During Retirement: The Missing Link in the Life Cycle," Review of Economics and Statistics, February 1984.

"Does Perception of Life Expectancy Reflect Health Knowledge?" American Journal of Public Health, August 1983, (with F. Hamermesh).

"Scholarship, Citations and Salaries," Southern Economic Journal, October 1982, (with G. Johnson and B. Weisbrod).

"Minimum Wages and the Demand for Labor," Economic Inquiry, July 1982.

"Social Insurance and Consumption: An Empirical Inquiry," American Economic Review, March 1982.

“Labor Market Competition Among Youths, White Women and Others," Review of Economics and Statistics, August 1981 (with J. Grant).

"Factor Market Dynamics and the Incidence of Taxes and Subsidies," Quarterly Journal of Economics, December 1980.

"Unemployment Insurance and Labor Supply," International Economic Review, October 1980.

"Econometric Studies of Labor-Labor Substitution and their Implications for Policy," Journal of Human Resources, Fall 1979 (with J. Grant).

"Entitlement Effects, Unemployment Insurance and Employment Decisions," Economic Inquiry, July 1979.

"New Evidence on the Incidence of the Payroll Tax," Southern Economic Journal, April 1979, and "reply." Ibid., April 1984.

"Estimating Fiscal Substitution by Public Service Employment Programs," Journal of Human Resources, Fall 1978, (with M. Borus); reprinted in Evaluation Studies Review, 1980.

"A Note on Income and Substitution Effects in Search Unemployment," Economic Journal, June 1977.

"Econometric Studies of Labor Demand and their Application to Policy Analysis," Journal of Human Resources, Fall 1976.

"Economic Considerations for Trends and Policies in Job Satisfaction," Industrial Relations, February 1976.

"Interdependence in the Labor Market," Economica, November 1975.

"The Economics of Black Suicide," Southern Economic Journal, October 1974.

"Economic Formulae for Manpower Revenue Sharing," Industrial and Labor Relations Review, July 1974, (with H. Pitcher).

"An Economic Theory of Suicide," Journal of Political Economy, January/February 1974, (with N. Soss); in Mercurio as "Una Teoria Economica del Suicidia."

"Who Wins in Wage Bargaining?" Industrial and Labor Relations Review, July 1973; also in I.W. Zartman, ed., The 50 Percent Solution (Doubleday, 1976), and J. Baderschneider et. al., eds., The Collective Bargaining Process, 1983; "Reply," Ibid, July 1975.

"Price and Quantity Adjustment in Factor Markets," Western Economic Journal, March 1973.

"Market Power and Wage Inflation," Southern Economic Journal, October 1972; also in Mercurio, September 1973, as "Variazioni dei Salarie e Potere di Mercato."

"The Labor Market Under Central Planning: The Case of Hungary," Oxford Economic Papers, July 1972, (with R. Portes).

"White-Collar Unions, Blue-Collar Unions and Wages in Manufacturing," Industrial and Labor Relations Review, January 1971.

"Manpower Programs in a Local Labor Market: A Theoretical Note," American Economic Review, September 1970, (with R. Goldfarb).

"Wage Bargains, Threshold Effects and the Phillips Curve," Quarterly Journal of Economics, August 1970, and "Reply," Ibid, May 1972.

"Spectral Analysis of the Relation Between Gross Employment Changes and Output Changes, 1958-1966," Review of Economics and Statistics, February 1969.

"White-Collar Unionism: A Comment," Industrial Relations, Fall 1966.

BOOKS AND MONOGRAPHS

Demand for Labor: The Neglected Side of the Market, 2015. Oxford University Press.

Beauty Pays, Princeton University Press, 2011. (Translations forthcoming in Chinese traditional, Chinese simplex, Italian, Japanese, Korean, Portuguese and Swedish).

The Economics of Time Use, edited volume, Amsterdam: Elsevier, 2005 (with Gerard Pfann).

Economics Is Everywhere, McGraw-Hill Irwin, 2004; 2nd edition 2006; Worth Publishers, 3rd edition, 2010 (also in Mandarin, Truth and Wisdom Press, 2011); 4th edition, 2012, 5th edition, 2014.

Help or Hindrance? The Economic Implications of Immigration for African-Americans, edited volume: Russell Sage, 1998 (with Frank Bean).

Workdays, Workhours, and Work Schedules: Evidence for the United States and Germany, Kalamazoo, MI: The W.E. Upjohn Institute, 1996

Labor Demand, Princeton University Press, 1993. In Spanish, La Demanda de Trabajo, Spanish Ministry of Labor, 1995.

Dynamic Labor Demand and Adjustment Costs, Elgar, 1992, edited volume (with G. Galeazzi).

The Economics of Work and Pay, 3rd edition, New York: Harper and Row, 1984, 4th edition, 1988; 5th edition, 1993 (with A. Rees); 6th edition, 1996 (with R. Filer). In Spanish, Economia del Trabajo y los Salarios, 1985.

Unemployment Insurance and the Older American, The W.E. Upjohn Institute, Kalamazoo, Michigan 1980.

Study of the Net Employment Effects of Public Service Employment: Econometric Analyses, National Commission for Manpower Policy, (with M. Borus), 1978.

Jobless Pay and the Economy, Baltimore: Johns Hopkins University Press, 1977. (Part reprinted in L. Reynolds et. al., Readings in Labor Economics and Labor Relations, 1978, 1982).

Labor in the Public and Nonprofit Sectors, edited volume, Princeton University Press, 1975, and "The Effect of Government Ownership on Union Wages," in this volume.

Economic Aspects of Manpower Training Programs, Lexington, Massachusetts: D. C. Heath and Company, 1971.

Manpower Policy in the Economy, General Learning Press, 1971.

NON-REFEREED ARTICLES AND BOOK CHAPTERS

"Age, Cohort and Co-Authorship," in L. Ramrattan and M. Szenberg, Intellectual Collaborative Experiences. Cambridge, MA: MIT Press, 2016.

"[Get] Credit Where It's Due," CSWEP Newsletter, Fall 2015.

"What's to Know about Time Use," Journal of Economic Surveys, 2015.

"Americans Work Long, and at Strange Times," Vox, September 29, 2014. http://www.voxeu.org/

"Not Enough Time?" American Economist, September 2014.

"Does Labor Cost Affect Companies' Labor Demand?" World of Labor, 2014.

"The Time of Our Lives," Insights (University of Melbourne), April 2014.

"Los Horarios Españoles (otra vez)," *Nada Es Gratis* (http://www.fedeablogs net/economia/), March 6, 2014.

"Cyclical Variation in Labor Hours and Productivity Using the ATUS," American Economic Review, May 2013 (with M. Burda and J. Stewart)

"President Obama and the Minimum Wage—A Politico-economic Bargain," Intereconomics: Review of European Economic Policy, March/April 2013.

"Six Decades of Top Economics Publishing: Who and How?" Journal of Economic Literature, March 2013.

"Age and Productivity: Economists and Others," Vox, February 20, 2013. http://www.voxeu.org/

"Aggregate Impacts of a Gift of Time," American Economic Review, May 2012 (with D. Kawaguchi and J. Lee)

"Time Use" NBER Reporter, Spring 2012.

"I Have Seen the Past—and It Doesn't Work," Chronicle of Higher Education, September 2, 2011.

"Discrimination and Development: The Case of Beauty in China," in Gordon Liu et al, eds., Investing in Human Capital for Economic Development in China, World Scientific Publishers, 2010.

"Teaching Labor Economics," in Simon Bowmaker, ed., The Heart of Teaching Economics: Lessons from Leading Minds. Edward Elgar, 2010.

"It's Time to 'Do Economics' with Time-Use Data," Social Indicators Research, August 2009.

"Fun with Matched Firm-Employee Data: Progress and Road Maps," Labour Economics, June 2008.

"The Distribution of Total Work in the EU and USA," in Tito Boeri *et al*, Working Hours and Job Sharing in the EU and USA: Are Europeans Lazy? Or Americans Crazy? Oxford University Press, 2008 (with M. Burda and P. Weil).

"The Economics of Time Use," in Jean Kimmel, ed., How Do We Spend Our Time? Evidence from the American Time Use Survey. Kalamazoo: W.E. Upjohn Institute for Employment Research, 2008.

"Viewpoint: Replication in Economics," Canadian Journal of Economics, August 2007.

"The Value of Peripatetic Economists: A Sesqui-Difference Evaluation of Bob Gregory," Economic Record, June 2006.

"Overtime Laws and the Margins of Work Timing," in Philippe Askenazy, Damien Carton, Frédéric de Coninck and Michel Gollac, eds., Organisation et Intensité du Travail. Paris: Octares, 2006.

"Data Watch: The American Time Use Survey," Journal of Economic Perspectives, Winter 2005 (with Harley Frazis and Jay Stewart)

"An Old Male Economist's Advice to Young Female Economists," CSWEP Bulletin, Winter 2005.

"Maximizing the Substance in the Soundbite: A Media Guide for Economists," Journal of Economic Education, October 2004.

"Subjective Outcomes in Economics," Southern Economic Journal, July 2004.

"Labor Demand in Latin America and The Caribbean: What Does it Tell Us?" in J. Heckman and C. Pages-Serra, Law & Employment: Lessons From Latin America and The Caribbean, Chicago: Univ. of Chicago Press, 2004.

"Timing, Togetherness and Time Windfalls," Journal of Population Economics, November 2002. (Reprinted in K. Zimmermann and M. Vogler, eds., Family, Household and Work, Springer, 2003)

"International Labor Economics," Journal of Labor Economics, October 2002.

"Micro Principles Teaching Tricks," American Economic Review, May 2002.

"Quite Good—For Now: The Economic Status of the Profession," Academe, March/April 2002.

"Demand for Labor," in International Encyclopedia of the Social and Behavioral Sciences, Pergamon Press, 2001.

"Labor Demand and a Wage-tax Trade-off," in N. Gruen, ed. Rebuilding the Safety Net. Sydney: Business Council of Australia, 2000.

"Changing Inequality of Injuries and Work Time," Monthly Labor Review, October 1999. (Reprinted in IAIABC Journal, 2000, Vol. 37, No. 1).

"LEEping Into The Future of Labor Economics: The Research Potential of Linking Employer and Employee Data," Labour Economics, March 1999.

"When We Work," American Economic Review, May 1998.

"Immigration and the Quality of Jobs," in D. Hamermesh and F. Bean, eds., Help or Hindrance? The Economic Implications of Immigration for African-Americans, Russell Sage, 1998.

"Some Thoughts on Replications and Reviews," Labour Economics, Spring 1997.

"Adjustment Costs in Factor Demand," Journal of Economic Literature, September 1996 (with G. Pfann).

"The Timing of Work: Evidence from the U.S. and Germany," Konjunkturpolitik, 1996.

"Doing Applied Economics: Normative and Positive Aspects," in S. Medema and W. Samuels, eds., Foundations of Research in Economics: How Do Economists Do Economics? Edward Elgar Press, 1996.

"Not So Bad: The Economic Status of the Profession," Academe, March/April 1996.

"Job Turnover and Labor Turnover: A Taxonomy of Employment Dynamics," Annales d'Économie et de Statistique, January/June 1996 (with W. Hassink and J. van Ours).

"Labour Demand: Status and Prospects," in E. K. Grant et al, eds., Aspects of Labour-Market Behavior, University of Toronto Press, 1995.

"Nonprice Rationing of Services, with Applications to Refereeing and Medicine," Research in Labor Economics, 1995.

"What a Wonderful World This Would Be: Comment on Card and Krueger," Industrial and Labor Relations Review, July 1995.

"A Ray of Sunshine? The Economic Status of the Profession," Academe, March/April 1995.

"Policy Transferability and Hysteresis: Daily and Weekly Hours in the BRD and the US," in F. Buttler et al, eds., Institutional Frameworks and Labor Market Performance: Comparative Views on the US and German Economies, Routledge, 1995.

"Plus Ça Change: The Economic Status of the Profession," Academe, March/April 1994.

"Facts and Myths About Refereeing," Journal of Economic Perspectives, Winter 1994, reprinted in Joshua Gans, Publishing Economics: Analyses of the Academic Journal Market in Economics. Elgar, 2000.

"Employment Protection: Theoretical Implications and Some U.S. Evidence," in C. Buechtemann, ed. Employment Security and Labor Market Behavior, Cornell University, ILR Press, 1993.

"Professional Etiquette for the Mature Economist," American Economic Review, May 1993.

"Treading Water: The Economic Status of the Profession," Academe, March/April 1993.

"Spatial and Temporal Aggregation in the Dynamics of Labor Demand," in J. van Ours, G. Pfann and G. Ridder, eds. Labor Demand and Equilibrium Wage Formation, North-Holland, 1993.

"Diversity within Adversity: The Economic Status of the Profession," Academe, March/April 1992.

"A Young Economist's Guide to Professional Etiquette," Journal of Economic Perspectives, Winter 1992, reprinted as, "Consigli dagli USA ai Giovani Ricercatori," in La Questione Agraria, No. 51, 1993, and in Joshua Gans, Publishing Economics: Analyses of the Academic Journal Market in Economics. Elgar, 2000.

"The Effects of Free Trade on the North American Labor Market," in C. Reynolds, ed. Dynamics of North American Trade and Investment, Stanford University Press, 1991 (with M. Gunderson).

"Data Difficulties in Labor Economics," in E. Berndt and J. Triplett, eds., Fifty Years of Economic Measurement, University of Chicago Press, 1991.

"Wage Concessions, Plant Shut-downs, and the Demand for Labor," in J. Addison, ed. Job Displacement: Consequences and Implications for Policy, Wayne State University Press, 1991.

"Outside Markets Inside Academe," Footnotes, Fall 1989.

"Salaries: Disciplinary Differences and Rank Injustices," Academe, May/June 1988.

"The Demand for Workers and Hours and the Effects of Job Security Policies: Theory and Evidence," in Robert Hart, ed., Employment, Unemployment and Labor Utilization, Unwin Hyman, 1988.

"Compensation for Displaced Workers - Why, How Much, How?" in P. Chinloy and E. Stromsdorfer, eds., Labor Adjustment in the Pacific Basin, Kluwer-Nijhoff , 1987 (with R. Goldfarb and J. Cordes).

"Overtime Hours and the Demand for Labour, Workers and Hours," in M. Gunderson, ed., Proceedings of a Symposium on Hours of Work and Overtime, Ontario Task Force on Hours of Work and Overtime, 1987.

"Payroll Taxes," in J. Eatwell and P. Newman, The New Palgrave, 1987.

"Social Security as Longevity Insurance," in P. Liu, ed., Economic Development and Social Welfare in Taiwan, Academia Sinica, 1987.

"The Demand for Labor in the Long Run," in O. Ashenfelter and R. Layard, eds., Handbook of Labor Economics, North-Holland Press, 1986. Reprinted in Manual de Economia de Trabajo, Ministerio de Trabajo y Seguridad Social, Spain, 1991.

"Incentives for the Homogenization of Time Use," in B. Balassa and H. Giersch, eds., Economic Incentives, Macmillan, 1986.

"Permitting Professors to Retain Tenure Past Age 70 Could Threaten the System," Chronicle of Higher Education, June 25, 1986.

"Substitution Between Different Categories of Labour, Relative Wages and Youth Unemployment," OECD Economic Studies, Autumn 1985.

"The Costs of Increased Life Expectancy," Challenge, September 1984.

"The Variable Employment Elasticity Hypothesis: Theory and Evidence," Research in Labor Economics, 1984 (with A. Drazen and N. Obst).

"New Measures of Labor Costs," in J. Triplett, ed., The Measurement of Labor Cost, University of Chicago Press, 1983.

"What is an Appropriate Benefit Level for the Unemployed?" in P. Sommers ed., Welfare Reform: Goals and Realities, Martinus Nijhoff Publishers, 1982.

"The Interaction Between Research and Policy: The Case of Unemployment Insurance," American Economic Review, May 1982.

“Goals and Effects of Social Insurance,” NBER Reporter, Fall 1981

"Unemployment Insurance and Consumption," in National Commission on Unemployment Compensation, Studies and Research, 1980.

"Employment Demand, the Minimum Wage and Labor Costs," in Minimum Wage Study Commission, Report, Volume V, 1981.

"Taxes, Transfers and the NAIRU," in L. Meyer, The Supply-Side Effects of Economic Policy, Federal Reserve Bank of St. Louis, 1981; reprinted with changes in R. Haveman and J. Margolis, eds., Public Expenditures and Policy Analysis, 3rd. edition, 1983.

"Income Maintenance and Full Employment," in Paul Burgess, ed., High Unemployment: Problems and Solutions, Arizona State University Press, 1980.

"Substitution and Labor Market Policy," Challenge, January 1980.

"Unemployment Insurance, the Workweek and Short-time Compensation," in National Commission for Employment Policy, Work Time and Employment, Special Report No. 28, 1979.

"Do Employers Substitute Workers of Different Ages, Races and Sexes, and What Does This Imply for Labor Market Policy?" in National Commission for Employment Policy, Expanding Employment Opportunities for Disadvantaged Youth: Sponsored Research, Special Report No. 37, 1979.

"Subsidies for Jobs in the Private Sector," in J. Palmer, ed., Creating Jobs: Public Employment Programs and Wage Subsidies, The Brookings Institution, 1978.

"Unemployment Insurance and Unemployment in the United States," in H. Grubel and M. Walker, eds., Unemployment Insurance: Global Evidence of its Effects on Unemployment, The Fraser Institute, 1978.

"Economic Aspects of Job Satisfaction," in O. Ashenfelter and W. Oates, eds., Essays in Labor Market Analysis, J. Wiley & Sons, 1977.

"Prospects for Integrating Unemployment Insurance and Employment Policy," Labor Law Journal, August 1977.

"Potential Problems in Human Capital Theory," Proceedings of the Industrial Relations Research Association, 1973.

"The Secondary Effects of Manpower Programs," in M. Borus, ed., Evaluating the Impact of Manpower Programs, Lexington, Massachusetts: D. C. Heath and Company, 1972; also in Economic and Business Bulletin, Summer 1972.

"A Disaggregative Econometric Model of Gross Changes in Employment," Yale Economic Essays, Fall 1969.

INVITED COMMENTS

"Comment on Peri et al, "The Wage Gap in the Transition from School to Work," in Tito Boeri, Eleonora Patacchini and Giovanni Peri, eds., Unexplored Dimensions of Discrimination. Oxford University Press, 2015

"Comment on Pierce, "Recent Trends in Compensation Inequality," in K. Abraham, J. Spletzer and M. Harper, eds., Labor in the New Economy, University of Chicago Press, 2011.

"General Comment," in J. Siegfried, Better Living Through Economics. Harvard University Press, 2010.

"A (Very Slightly Critical) Encomium to the SOEP," Vierteljahresheft zur Wirtschaftsforschung [Quarterly Journal of Economic Research], June 2008.

"Comment on Stafford, `Early Education of Children by Families and Schooling,'" in P. Menchik, ed., Household and Family Economics, Kluwer, 1996.

"Comment on Brown and Medoff, 'Employer Size, Pay, and the Ability to Pay in the Public Sector,'" in R. Freeman and C. Ichniowski, eds., When Public Sector Workers Unionize, University of Chicago Press, 1988.

"Comments: The American Labour Market," in Morley Gunderson et al, eds., Unemployment: International Perspectives, University of Toronto Press, 1987.

"Comment on Borjas," in R. Freeman and H. Holzer, eds., The Black Youth Employment Crisis, University of Chicago Press, 1986.

"Comment on Morgan," in M. Moon, ed. Economic Transfers in the United States, University of Chicago Press, 1984.

"Comment on F. Brechling, 'Layoffs and Unemployment Insurance,'" in S. Rosen, ed., Studies in Labor Markets, University of Chicago Press, 1981.

"Comment on Stafford and Kwoka," in J. Siegfried, ed., The Economics of Firm Size, Market Structure and Social Performance, Washington, FTC, 1980.

"Comment on Mott and Macke, 'The Impact of Maternal Characteristics and Significant Life Events on the Work Orientation of Adolescent Women'," in Research in Labor Economics, 1980.

"Comment on Lampman, "Labor Supply and Social Welfare Benefits in the United States," in National Commission on Employment and Unemployment Statistics, Counting the Labor Force, Appendix, Volume 1, 1980.

"Comment on Bishop and Haveman," in National Commission for Employment Policy, Increasing Job Opportunities in the Private Sector, Special Report No. 29, 1979.

"Comment on Two Papers on Manpower Training," in F. Bloch, ed., Evaluating Manpower Training Programs, Greenwich, Connecticut, JAI Press, 1979.

"Comment on Estimates of State New Hire Rates," in U.S. Employment Service, Proceedings of the Employment Service Potential Conference, Ann Arbor, Michigan, 1978.

"Comment on Dunlop, "Policy Decisions and Research in Economics and Industrial Relations," Industrial and Labor Relations Review, October 1977 (with R. Ehrenberg and G. Johnson).

"Discussion of Charles McLure, 'Shifting of the Tax for Unemployment Insurance'," Industrial and Labor Relations Review, July 1977.

"Comment on Three Empirical Studies of Bargaining," Proceedings of the Industrial Relations Research Association, 1977.

"Comment on Finis Welch, ' Minimum Wage Legislation in the United States'," in O. Ashenfelter, and J. Blum, eds., Evaluating the Impact of Labor Market Programs, Princeton University, Industrial Relations Section, 1976.

BOOK REVIEWS

The Making of an Economist Redux by David Colander, Journal of Economic Literature, June 2008.

Economic Events, Ideas and Policies, George Perry and James Tobin, in Journal of Economic Literature, March 2002.

A Guide for the Young Economist, William Thomson, in Southern Economic Journal, October 2001. mo

Rewarding Work, Edmund Phelps, in Economica, February 1999.

The Costs of Worker Dislocation, Louis Jacobson et al, in Industrial and Labor Relations Review, January 1995.

The Overworked American, Juliet Schor, in Industrial and Labor Relations Review, January 1993.

Working Time and Employment, Robert Hart, in Industrial and Labor Relations Review, January 1989.

The Funding Crisis in State Unemployment Insurance, Wayne Vroman, in Industrial and Labor Relations Review, July 1988.

How to Beat Unemployment, Richard Layard, in Journal of Economic Literature, March 1988.

Workers, Jobs and Inflation, Martin Baily, in Southern Economic Journal, October 1983.

Jobs for Disadvantaged Workers, Robert Haveman and John Palmer, in Industrial and Labor Relations Review, July 1983.

Unemployment in Western Countries, Edmond Malinvaud and Jean-Paul Fitoussi, in Journal of Comparative Economics, 1982.

The Federal Supplemental Benefits Program, Walter Corson and Walter Nicholson, in Industrial and Labor Relations Review, July 1982.

The Market for Labor, John Addison and Stanley Siebert, in Industrial and Labor Relations Review, April 1980.

Research in Labor Economics, Ronald Ehrenberg, in Industrial and Labor Relations Review, April 1978.

Union Growth and the Business Cycle, George Bain and Farouk Elsheikh, in Industrial and Labor Relations Review, October 1977.

Relative Wage Differentials in Canadian Industries, Pradeep Kumar, in Journal of Business, 1976.

Econometric Wage and Price Models, A. Askin and J. Kraft, in Journal of the American Statistical Association, 1975.

Manpower Programs in the Policy Mix, Lloyd Ulman, in Industrial and Labor Relations Review, January 1974.

Do Unions Cause Inflation?, Dudley Jackson et al, in Monthly Labor Review, July 1973.

Fringe Benefits and Overtime Behavior, Ronald Ehrenberg, in Industrial and Labor Relations Review, January 1973.

Economic Statistics and Econometrics, Edward Kane, in Journal of Business, July 1969.

APPENDIX B.

```
opened on:  23 Jun 2015, 08:23:24

. des

Contains data from D:\FTCvAmazon\CPS1111-0614.dta
  obs:       841,966
 vars:            98                          4 Jun 2015 13:02
 size:   152,395,846
-------------------------------------------------------------------------------
-
              storage   display    value
variable name   type    format     label      variable label
-------------------------------------------------------------------------------
-
. gener byte use=0

. replace use=1 if ch35==1 | ch613==1
(157,774 real changes made)

. replace use=0 if earnwke==0 | earnwke>999999
(52,062 real changes made)

. replace use=0 if uhourse==0 | uhourse>168
(5,667 real changes made)

. tab use

        use |      Freq.     Percent        Cum.
------------+-----------------------------------
          0 |    741,921       88.12       88.12
          1 |    100,045       11.88      100.00
------------+-----------------------------------
      Total |    841,966      100.00

. summ earnwke if use==1

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+--------------------------------------------------------
     earnwke |    100,045    954.2496    670.0854        .01    2884.61

. replace earnwke=1.5*earnwke if earnwke>2884 & use==1
(3,666 real changes made)

. gener int uhourse2=uhourse*uhourse
(383,419 missing values generated)

. gener byte age3554=0

. gener byte age55plus=0

. replace age3554=1 if age>=35 & age<55
(287,246 real changes made)

. replace age55plus=1 if age>54 & age<999
(299,359 real changes made)

. tab male
variable male not found
```

```
r(111);

. tab sex

        Sex |      Freq.     Percent        Cum.
------------+-----------------------------------
          1 |    403,056       47.87       47.87
          2 |    438,910       52.13      100.00
------------+-----------------------------------
      Total |    841,966      100.00

. sort sex

. by sex: summ earnwke if use==1

-------------------------------------------------------------------------------
-
-> sex = 1

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+--------------------------------------------------------
     earnwke |     50,041    1239.713    957.9441        .01   4326.915

-------------------------------------------------------------------------------
-
-> sex = 2

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+--------------------------------------------------------
     earnwke |     50,004    774.3161      653.35        .01   4326.915


.  gener byte male=2-sex

. lookfor hisp

. lookfor ethn

              storage   display    value
variable name   type    format     label      variable label
-------------------------------------------------------------------------------
-
ethnic          byte    %8.0g                 Ethnicity

. tab ethnic

  Ethnicity |      Freq.     Percent        Cum.
------------+-----------------------------------
          1 |     61,645       61.17       61.17
          2 |      9,581        9.51       70.67
          3 |      3,888        3.86       74.53
          4 |     16,573       16.44       90.98
          5 |      5,495        5.45       96.43
          6 |      1,152        1.14       97.57
          7 |      1,134        1.13       98.70
          8 |      1,314        1.30      100.00
------------+-----------------------------------
      Total |    100,782      100.00

.  des
```

```
. tab race

       Race |      Freq.     Percent        Cum.
------------+-----------------------------------
          1 |    689,733       81.92       81.92
          2 |     84,917       10.09       92.00
          3 |      8,606        1.02       93.03
          4 |     41,571        4.94       97.96
          5 |      3,649        0.43       98.40
          6 |      2,704        0.32       98.72
          7 |      5,262        0.62       99.34
          8 |      2,078        0.25       99.59
          9 |        647        0.08       99.67
         10 |        689        0.08       99.75
         11 |        213        0.03       99.77
         12 |         53        0.01       99.78
         13 |         36        0.00       99.79
         14 |        127        0.02       99.80
         15 |        561        0.07       99.87
         16 |        370        0.04       99.91
         17 |         66        0.01       99.92
         18 |        111        0.01       99.93
         19 |         42        0.00       99.94
         20 |         35        0.00       99.94
         21 |        414        0.05       99.99
         22 |          8        0.00       99.99
         23 |         27        0.00       99.99
         24 |          3        0.00       99.99
         25 |          9        0.00      100.00
         26 |         35        0.00      100.00
------------+-----------------------------------
      Total |    841,966      100.00

. gener byte white=0

. replace white=1 if race==1
(689,733 real changes made)

. tab ethnic

  Ethnicity |      Freq.     Percent        Cum.
------------+-----------------------------------
          1 |     61,645       61.17       61.17
          2 |      9,581        9.51       70.67
          3 |      3,888        3.86       74.53
          4 |     16,573       16.44       90.98
          5 |      5,495        5.45       96.43
          6 |      1,152        1.14       97.57
          7 |      1,134        1.13       98.70
          8 |      1,314        1.30      100.00
------------+-----------------------------------
      Total |    100,782      100.00

. tab ethnic if use==1

  Ethnicity |      Freq.     Percent        Cum.
------------+-----------------------------------
```

```
          1 |     11,178       65.99       65.99
          2 |      1,263        7.46       73.45
          3 |        463        2.73       76.18
          4 |      2,774       16.38       92.56
          5 |        724        4.27       96.84
          6 |        209        1.23       98.07
          7 |        175        1.03       99.10
          8 |        152        0.90      100.00
------------+-----------------------------------
      Total |     16,938      100.00

. gener byte hispanic=0

. replace hispanic=1 if ethnic<999
(100,782 real changes made)

. gener byte ed12=0

. gener byte ed1315=0

. gener byte ed16=0

. gener byte edgt16=0

.  lookfor education

. tab grade92

    Highest |
      grade |
  completed |      Freq.     Percent        Cum.
------------+-----------------------------------
         31 |      2,653        0.32        0.32
         32 |      5,099        0.61        0.92
         33 |      9,951        1.18        2.10
         34 |     15,535        1.85        3.95
         35 |     17,683        2.10        6.05
         36 |     26,811        3.18        9.23
         37 |     31,036        3.69       12.92
         38 |     12,193        1.45       14.37
         39 |    246,231       29.24       43.61
         40 |    155,328       18.45       62.06
         41 |     34,849        4.14       66.20
         42 |     43,408        5.16       71.35
         43 |    155,750       18.50       89.85
         44 |     62,000        7.36       97.22
         45 |     11,186        1.33       98.54
         46 |     12,253        1.46      100.00
------------+-----------------------------------
      Total |    841,966      100.00

. tab ihigrdc

    Imputed |
    highest |
      grade |
  completed |      Freq.     Percent        Cum.
------------+-----------------------------------
          0 |      2,763        0.33        0.33
        2.5 |      5,400        0.64        0.97
```

```
        5.5 |     10,120        1.20        2.17
        7.5 |     16,940        2.01        4.18
          9 |     20,405        2.42        6.61
         10 |     32,795        3.90       10.50
         11 |     39,644        4.71       15.21
         12 |    267,792       31.81       47.02
         13 |     58,882        6.99       54.01
         14 |    104,232       12.38       66.39
         15 |     26,542        3.15       69.54
         16 |    126,294       15.00       84.54
         17 |     17,533        2.08       86.62
         18 |    112,624       13.38      100.00
------------+-----------------------------------
      Total |    841,966      100.00

. replace ed12=1 if ihigrdc==12
(267,792 real changes made)

. replace ed1315=1 if ihigrdc>12 & ihigrdc<16
(189,656 real changes made)

. replace ed16=1 if ihigrdc==16
(126,294 real changes made)

. replace edgt16=1 if ihigrdc==17 | ihigrdc==18
(130,157 real changes made)

. gener lnearnwke=ln(earnwke)
(400,632 missing values generated)

. summ earnwke lnearnwke uhourse uhourse2-edgt16 if use==1 [aw=weight]

    Variable |     Obs      Weight        Mean   Std. Dev.       Min        Max
-------------+--------------------------------------------------------------------
     earnwke | 100,045   236422112    996.3175   855.3596        .01   4326.915
   lnearnwke | 100,045   236422112    6.608015   .8059539   -4.60517    8.37261
     uhourse | 100,045   236422112    39.68885   9.552789          1         99
    uhourse2 | 100,045   236422112     1666.46   795.4032          1       9801
     age3554 | 100,045   236422112    .6522003   .4762744          0          1
-------------+--------------------------------------------------------------------
   age55plus | 100,045   236422112    .0271101    .162405          0          1
        male | 100,045   236422112    .5125166   .4998458          0          1
       white | 100,045   236422112    .7807261   .4137567          0          1
    hispanic | 100,045   236422112    .2114332   .4083269          0          1
        ed12 | 100,045   236422112    .2663242    .442038          0          1
-------------+--------------------------------------------------------------------
      ed1315 | 100,045   236422112    .2330479   .4227746          0          1
        ed16 | 100,045   236422112    .1954065   .3965153          0          1
      edgt16 | 100,045   236422112    .1992117   .3994095          0          1

. gener hourlywage=earnwke/uhourse
(427,201 missing values generated)

. save "D:\FTCvAmazon\CPS1111-0614.dta", replace
file D:\FTCvAmazon\CPS1111-0614.dta saved

. replace use=0 if hourlywage<7.25
(2,496 real changes made)

. summ earnwke lnearnwke uhourse uhourse2-edgt16 if use==1 [aw=weight]
```

```
    Variable |     Obs      Weight        Mean   Std. Dev.       Min        Max
-------------+--------------------------------------------------------------------
     earnwke |  97,549   230077323    1018.478   856.2888          8   4326.915
   lnearnwke |  97,549   230077323     6.65391   .7382504   2.079442    8.37261
     uhourse |  97,549   230077323     39.7812   9.404326          1         99
    uhourse2 |  97,549   230077323    1670.985    781.365          1       9801
     age3554 |  97,549   230077323    .6558443   .4750946          0          1
-------------+--------------------------------------------------------------------
   age55plus |  97,549   230077323    .0272224   .1627318          0          1
        male |  97,549   230077323    .5176527   .4996908          0          1
       white |  97,549   230077323      .78159   .4131692          0          1
    hispanic |  97,549   230077323    .2080968   .4059485          0          1
        ed12 |  97,549   230077323    .2640208   .4408127          0          1
-------------+--------------------------------------------------------------------
      ed1315 |  97,549   230077323    .2335079   .4230647          0          1
        ed16 |  97,549   230077323    .1974526   .3980787          0          1
      edgt16 |  97,549   230077323    .2027855   .4020761          0          1

. summ earnwke lnearnwke uhourse uhourse2-edgt16 if use==1 & male==1 [aw=weight]

    Variable |     Obs      Weight        Mean   Std. Dev.       Min        Max
-------------+--------------------------------------------------------------------
     earnwke |  49,282   119100158    1232.307   959.3681         10   4326.915
   lnearnwke |  49,282   119100158    6.876309   .6837438   2.302585    8.37261
     uhourse |  49,282   119100158     42.7816   8.411676          1         99
    uhourse2 |  49,282   119100158     1901.02   837.7924          1       9801
     age3554 |  49,282   119100158    .6937871   .4609239          0          1
-------------+--------------------------------------------------------------------
   age55plus |  49,282   119100158     .037854   .1908449          0          1
        male |  49,282   119100158           1          0          1          1
       white |  49,282   119100158    .8086842   .3933411          0          1
    hispanic |  49,282   119100158    .2244569   .4172284          0          1
        ed12 |  49,282   119100158    .2813451     .44966          0          1
-------------+--------------------------------------------------------------------
      ed1315 |  49,282   119100158    .2068156   .4050262          0          1
        ed16 |  49,282   119100158    .1926906   .3944161          0          1
      edgt16 |  49,282   119100158     .195398   .3965108          0          1

. summ earnwke lnearnwke uhourse uhourse2-edgt16 if use==1 & male==0 [aw=weight]

    Variable |     Obs      Weight        Mean   Std. Dev.       Min        Max
-------------+--------------------------------------------------------------------
     earnwke |  48,267   110977165    788.9978   656.2451          8   4326.915
   lnearnwke |  48,267   110977165    6.415233   .7198304   2.079442    8.37261
     uhourse |  48,267   110977165    36.56119     9.3484          1         99
    uhourse2 |  48,267   110977165    1424.112   628.2943          1       9801
     age3554 |  48,267   110977165    .6151242    .486571          0          1
-------------+--------------------------------------------------------------------
   age55plus |  48,267   110977165    .0158127   .1247518          0          1
        male |  48,267   110977165           0          0          0          0
       white |  48,267   110977165    .7525126   .4315568          0          1
    hispanic |  48,267   110977165    .1905391   .3927304          0          1
        ed12 |  48,267   110977165    .2454285   .4303454          0          1
-------------+--------------------------------------------------------------------
      ed1315 |  48,267   110977165    .2621539   .4398104          0          1
        ed16 |  48,267   110977165    .2025631   .4019137          0          1
      edgt16 |  48,267   110977165    .2107138   .4078198          0          1

. regress lnearnwke uhourse* age3554 age55plus white hispanic ed12-edgt16 if use==1 &
```

```
> male==1 [aw=weight]
(sum of wgt is   1.1910e+08)

      Source |       SS           df       MS      Number of obs   =    49,282
-------------+----------------------------------   F(10, 49271)    =   4615.63
       Model |  11143.5814         10  1114.35814   Prob > F        =    0.0000
    Residual |   11895.563    49,271  .241431328   R-squared       =    0.4837
-------------+----------------------------------   Adj R-squared   =    0.4836
       Total |  23039.1444    49,281  .467505619   Root MSE        =    .49136

------------------------------------------------------------------------------
   lnearnwke |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     uhourse |   .0826686   .0011832    69.87   0.000     .0803495    .0849877
    uhourse2 |   -.000557   .0000118   -47.04   0.000    -.0005802   -.0005338
     age3554 |   .2190431   .0051739    42.34   0.000     .2089022     .229184
   age55plus |   .2130266   .0122195    17.43   0.000     .1890762    .2369769
       white |    .109465   .0057148    19.15   0.000     .0982639    .1206661
    hispanic |  -.1568273   .0059316   -26.44   0.000    -.1684533   -.1452014
        ed12 |   .2144982   .0078625    27.28   0.000     .1990876    .2299088
      ed1315 |   .3519761   .0084686    41.56   0.000     .3353775    .3685747
        ed16 |   .6805704   .0087809    77.51   0.000     .6633597     .697781
      edgt16 |   .8472948   .0088593    95.64   0.000     .8299304    .8646591
       _cons |   3.755275   .0297949   126.04   0.000     3.696877    3.813674
------------------------------------------------------------------------------

. regress lnearnwke uhourse* age3554 age55plus white hispanic ed12-edgt16 if use==1 &
> male==0 [aw=weight]
(sum of wgt is   1.1098e+08)

      Source |       SS           df       MS      Number of obs   =    48,267
-------------+----------------------------------   F(10, 48256)    =   6960.64
       Model |  14769.8304         10  1476.98304   Prob > F        =    0.0000
    Residual |   10239.479    48,256  .212190794   R-squared       =    0.5906
-------------+----------------------------------   Adj R-squared   =    0.5905
       Total |  25009.3094    48,266  .518155832   Root MSE        =    .46064

------------------------------------------------------------------------------
   lnearnwke |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     uhourse |   .0843603   .0008246   102.31   0.000     .0827442    .0859765
    uhourse2 |   -.000614   .0000123   -49.93   0.000    -.0006381   -.0005899
     age3554 |   .1676671   .0045057    37.21   0.000     .1588358    .1764984
   age55plus |   .1828224   .0170543    10.72   0.000     .1493958    .2162491
       white |   .0617019   .0049388    12.49   0.000     .0520218    .0713819
    hispanic |  -.0888645   .0057071   -15.57   0.000    -.1000505   -.0776785
        ed12 |   .1735561   .0087297    19.88   0.000     .1564457    .1906665
      ed1315 |   .3178495   .0087777    36.21   0.000     .3006452    .3350539
        ed16 |   .6307644   .0091968    68.59   0.000     .6127385    .6487903
      edgt16 |   .8265082    .009268    89.18   0.000     .8083428    .8446736
       _cons |   3.641897   .0167721   217.14   0.000     3.609023     3.67477
------------------------------------------------------------------------------

.  log close
      name:  <unnamed>
       log:  D:\FTCvAmazon\logCPS062315.log
  log type:  text
 closed on:  23 Jun 2015, 08:44:07
-------------------------------------------------------------------------------
-
```

```
 regress uhourse age3554 age55plus white hispanic ed12-edgt16 if use==1 & male==
> 1 [aw=weight]
(sum of wgt is   1.1910e+08)

      Source |       SS           df       MS      Number of obs   =    49,282
-------------+----------------------------------   F(8, 49273)     =    239.67
       Model |  130603.541         8  16325.4426   Prob > F        =    0.0000
    Residual |  3356337.18    49,273  68.1171671   R-squared       =    0.0375
-------------+----------------------------------   Adj R-squared   =    0.0373
       Total |  3486940.72    49,281  70.7562898   Root MSE        =    8.2533

------------------------------------------------------------------------------
     uhourse |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     age3554 |   .4723859   .0868397     5.44   0.000      .302179    .6425927
   age55plus |  -.4256649   .2052244    -2.07   0.038    -.8279073   -.0234226
       white |   2.133272   .0954635    22.35   0.000     1.946162    2.320381
    hispanic |  -1.500715   .0994024   -15.10   0.000    -1.695544   -1.305885
        ed12 |   .9683984   .1319235     7.34   0.000     .7098267     1.22697
      ed1315 |   1.436611    .142035    10.11   0.000      1.15822    1.715001
        ed16 |   2.249791   .1469452    15.31   0.000     1.961776    2.537805
      edgt16 |   3.413647   .1479198    23.08   0.000     3.123722    3.703571
       _cons |   39.41158   .1552412   253.87   0.000      39.1073    39.71585
------------------------------------------------------------------------------

. regress uhourse age3554 age55plus white hispanic ed12-edgt16 if use==1 & male==
> 0 [aw=weight]
(sum of wgt is   1.1098e+08)

      Source |       SS           df       MS      Number of obs   =    48,267
-------------+----------------------------------   F(8, 48258)     =    105.56
       Model |  72543.3754         8  9067.92193   Prob > F        =    0.0000
    Residual |  4145547.01    48,258  85.9038297   R-squared       =    0.0172
-------------+----------------------------------   Adj R-squared   =    0.0170
       Total |  4218090.39    48,266  87.3925825   Root MSE        =    9.2684

------------------------------------------------------------------------------
     uhourse |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     age3554 |   .5400712   .0906048     5.96   0.000     .3624846    .7176578
   age55plus |   .7645415   .3431056     2.23   0.026     .0920499    1.437033
       white |   -1.19926   .0991585   -12.09   0.000    -1.393612   -1.004908
    hispanic |   .9769578   .1146841     8.52   0.000     .7521754     1.20174
        ed12 |   1.482983   .1755168     8.45   0.000     1.138967    1.826998
      ed1315 |   1.754179   .1764323     9.94   0.000      1.40837    2.099989
        ed16 |   2.605732   .1846349    14.11   0.000     2.243845    2.967619
      edgt16 |   3.939507   .1853873    21.25   0.000     3.576145    4.302868
       _cons |   34.75144   .1813086   191.67   0.000     34.39607     35.1068
------------------------------------------------------------------------------

.
```

APPENDIX C	Author	Title and Outlet
	Fezzi, Carlo; Bateman, Ian J.; Ferrini, Silvia	Using Revealed Preferences to Estimate the Value of Travel Time to Recreation Sites Journal of Environmental Economics and Management, January 2014, v. 67, iss. 1, pp. 58-70
	Wolff, Hendrik	Value of Time: Speeding Behavior and Gasoline Prices Journal of Environmental Economics and Management, January 2014, v. 67, iss. 1, pp. 71-88
	Sikka, Nikhil; Hanley, Paul	What do commuters think travel time reliability is worth? Calculating economic value of reducing the frequency and extent of unexpected delays TRANSPORTATION Volume: 40 Issue: 5 Pages: 903-919 Published: SEP 2013
	Devarasetty, Prem Chand; Burris, Mark; Shaw, W. Douglass	The Value of Travel Time and Reliability-Evidence from a Stated Preference Survey and Actual Usage Transportation Research: Part A: Policy and Practice, Oct 2012,46,8, pp. 1227-40
	De Borger, Bruno; Fosgerau, Mogens	The trade-off between money and travel time: A test of the theory of reference #NAME? JOURNAL OF URBAN ECONOMICS Volume: 64 1 Pages: 101-115 JUL 2008
	Robert B. Nolanda, Kenneth A. Small[b], Pia Maria Koskenoja[c], Xuehao Chu[d]	Simulating travel reliability Regional Science and Urban Economics Volume 28, Issue 5, 1 September 1998, Pages 535–564
	Carrion, Carlos; Levinson, David	Value of travel time reliability: A review of current evidence TRANSPORTATION RESEARCH PART A-POLICY AND PRACTICE : 46 Issue: 4 Pages: 720-741 Published: MAY 2012
	Liu, Henry X.; He, Xiaozheng; Recker, Will	Estimation of the time-dependency of values of travel time and its reliability from loop detector data TRANSPORTATION RESEARCH PART B-METHODOLOGICAL 41 4 P 448-461

May 2007

USDOT Guidance

Asensio, Javier; Matas, Anna — Commuters' valuation of travel time variability
TRANSPORTATION RESEARCH PART E-LOGISTICS AND TRANSPORTATION REV
Volume: 44 Issue: 6 Pages: 1074-1085 Published: NOV 2008

Li, Zheng; Hensher, David A.; Rose, John M — Willingness to pay for travel time reliability in passenger transport: A Review and Some New Empirical Evidence
TRANSPORTATION RESEARCH PART E-LOGISTICS AND TRANSPORTATION REVIEW Volume: 46 Issue: 3 Pages: 384-403 Published: MAY 2010

r:
Tseng, Yin-Yen; Verhoef, Erik T. — Value of Time by Time of Day: A Stated-Preference Study
Transportation Research: Part B: Methodological, August 2008, v. 42, iss. 7-8, pp. 607-18

Koster, Paul; Kroes, Eric; **Verhoef**, Erik	Travel Time Variability and Airport Accessibility Transportation Research: Part B: Methodological, December 2011, v. 45, iss. 10, pp. 1545-59
Jos van Ommeren and Mogens Fosgerau	Workers Marginal Costs of Commuting Journ Urban Econs, 65 2009 38-47
Gunnar Isacson, Jan-Erik Swardh	An Empirical on-the-job search model with preferences for relative earnings: How high is the value of commuting time? Unpub 2007
Stephen Gibbons and Stephen Machin	Valuing Rail Access Using Transport Innovations Journ Urban Econs, 57 (2005): 148-69.
=	
David Brownstone and Kenneth Small	Valuing Time and Reliability: Assessing the Evidence from Road Pricing Demonstrations Transp Research Pt A--Policy and Practice 2005
Luca Zamparini and Aura Reggiani	Meta-Analysis and the Value of Travel Time Savings: A Transatlantic Perspective in passenger Transport Networks and Spatial Economics, 7 pp. 377-96 Dec. 2007
Patil, Sunil; Concas, Sisinnio; Burris, Mark; et al.	Investigating Changes in Willingness to Pay for Managed-Lane Systems Quasi-Panel Approach *TRANSPORTATION RESEARCH RECORD Issue: 2382 Pages: 37-45 Published: 2013*
Borjesson, Maria; Fosgerau, Mogens; Algers, Staffan	On the Income Elasticity of the Value of Travel Time Transportation Research: Part A: Policy and Practice, February 2012, v. 46, iss. 2, pp. 368-77
Li, Zheng; Hensher, David A.	Estimating values of travel time savings for toll roads: Avoiding a common error ***TRANSPORT POLICY Volume: 24 Pages: 60-66 Published: NOV 2012***

Location	Goal	Value of time (actual or as fraction of earnings)	AHE at the time	Growth nominal assume 0	Exchange rate in Year	VOT/AHE	Uncertainty effect
Italy	Travel time to beaches by car actual	.7 to .8		since 2004		0.750	
Washington State	Travel time by car actual	$10.02 to 12.70 in 2005	16.13			0.704	
Misc states	Travel time SCE	$6.98 to $9.59 perhaps in year 2008	18.08			0.404	Extra 47%
TX	Travel time SCE	2010 .63 to 1.32	19.07			0.980	
Denmark	Travel time SCE	Perhaps 2004 0.738				0.738	
							Extra cost of uncertainty
of 17 studies of RR=VOR/VOT							Median is RR .9 only
CA 2003	Actual travel time	$6.82 - $27.66 Lowest off-peak higher mid-peak	15.38			1.153	

		2008 US$	2010 AHE in Euros	2008 1.51515152			
DK		12.46	25		0.329		
F		13.27	13.7		0.639		
ES		18.52	9.4		1.300		
CH		18.41	22.4		0.542		
UK		9.15	12.6		0.479		
IEW Spain	SCE 2004?	14.1 euros/hr	9.4 euros in 2010		1.500	Extra cost of uncertainty	
10 studies US and NZ and UK		NZ$8.70 1999	7.72 NZ$ 1999 AHE2009US		0.491	22.3 NZ$ 2007	NZ1999$
		$5.10	18.63		0.274		
		$30.50	18.63		1.637		
		$27.50	18.63		1.476		
		$15.20	18.63		0.816		
		$16.10	18.63		0.864		
		$13.30	18.63		0.714		
		4.2 pounds 2004	9.3 pounds		0.452	12.6 euros 2010	
		15.4 pounds 2007	10.2		1.510	12.6 euros 2010	
Netherlands	Actual car travel	9 euros/hr 2004	15.3 euros in 2010		0.588	variable over time of day	

Netherlands	Getting to airport SCE	Mean bus travel= 40 euros Mean pers travel=30euros Med HHI = 60K euros	15.3 euros in 2010	0.500	
Netherlands OSA data 1990-2002	Search time and moving Marginal cost	17 euros/hour	15.3 euros in 2010	1.111	
Sweden job search 1983-1998		about = AHE	14.9 euros in 2010	1.000	
UK 2001	Effect on house prices of new rail line	between 1.60 and 6/hour Average wage=13	12.6 euros in 2010	0.292	
CA 1990s	Revealed car travel	$20 - $40	11.66	2.573	
US 2010?	Car travel SCE	$6.50/hr	19.07	0.341	Higher if urgent
Sweden 1994, 2007	Car travel SCE	43SEK/hr 2007	14.9 euros in 2010	0.314	
AUS, 2004	Car travel SCE	15.18 2008 AU$	36.83	0.412	

NZ 2007	10.45 2007 NZ$	22.3	0.469
AUS 2008	21.85 AU$	36.83	0.593

32.000

Acknowledgments The authors wish to thank Alberto Cendron for his research assistance with and collaboration on a previous draft of the present paper. In addition, they wish to thank two anonymous referees for their useful comments and valuable suggestions.

Appendix

Table 12 Database of passengers' transport studies

Number	Region	Country	Author(s)	VTTS as % of wage rate	Trip purpose	Mode	Per capita GDP, thousands of USA Dollars
1	North-Europe	Sweden	EURET (1994)	157.5	Employer's business	Car	26,49
2	North-Europe	Sweden	Algers et al. (1996) National VTTS study	126.0	Employer's business	Car	31,91
3	North-Europe	Sweden	Algers et al. (1996) National VTTS study	43.5	Commuting	Car	31,91
4	North-Europe	Sweden	Algers et al. (1996) National VTTS study	21.0	Others	Car	31,91
5	North-Europe	Sweden	Algers et al. (1996) National VTTS study	106.0	Employer's business	Air	31,91
6	North-Europe	Sweden	Algers et al. (1996) National VTTS study	66.0	Commuting	Air	31,91
7	North-Europe	Sweden	Algers et al. (1996) National VTTS study	99.0	Employer's business	Train	31,91
8	North-Europe	Sweden	Algers et al. (1996) National VTTS study	56.8	Commuting	Train	31,91
9	North-Europe	Sweden	Algers et al. (1996) National VTTS study	38.5	Commuting	Bus	31,91
10	North-Europe	Sweden	Algers et al. (1996) National VTTS study	21.0	Others	Bus	31,91
11	North-Europe	Norway	Hansen (1970)	38.0	Commuting	Car	11,8
12	North-Europe	Norway	Ramjerdi et al. (1997)	151.0	Employer's business	Car	33,28
13	North-Europe	Norway	Ramjerdi et al. (1997)	82.0	Commuting	Car	33,28
14	North-Europe	Norway	Ramjerdi et al. (1997)	106.0	Employer's business	Rail	33,28
15	North-Europe	Norway	Ramjerdi et al. (1997)	49.0	Commuting	Rail	33,28
16	North-Europe	Norway	Ramjerdi et al. (1997)	86.5	Employer's business	Bus	33,28

Table 12 (continued)

Number	Region	Country	Author(s)	VTTS as % of wage rate	Trip purpose	Mode	Per capita GDP, thousands of USA Dollars
17	North-Europe	Norway	Ramjerdi et al. (1997)	36.5	Commuting	Bus	33,28
18	North-Europe	Norway	Ramjerdi et al. (1997)	255.0	Employer's business	Air	33,28
19	North-Europe	Norway	Ramjerdi et al. (1997)	156.0	Commuting	Air	33,28
20	North-Europe	Denmark	EURET (1994)	71.5	Employer's business	Car	29,66
21	North-Europe	Finland	EURET (1994)	327.0	Employer's business	Car	20,47
22	North-Europe	Ireland	EURET (1994)	148.0	Employer's business	Car	15,73
23	North-Europe	UK	Dawson and Smith (1959)	86.0	Interurban	Car	16,13
24	North-Europe	UK	Beesley (1965)	41.5	Commuting	Car	19,14
25	North-Europe	UK	Quarmby (1967)	22.5	Commuting	Car	19,72
26	North-Europe	UK	Stopher (1968)	26.5	Commuting	Car	17,52
27	North-Europe	UK	Lee and Dalvi (1969)	30.0	Commuting	Bus	17,8
28	North-Europe	UK	Dalvi and Lee (1971)	40.0	Commuting	Car	18,92
29	North-Europe	UK	Wabe (1971)	43.0	Commuting	Rail	18,92
30	North-Europe	UK	Ghosh et al. (1975)	73.0	Interurban	Car	18,61
31	North-Europe	UK	MVA et al. (1987)-1985 VTTS study	127.0	Employer's business	Car	12,82
32	North-Europe	UK	MVA et al. (1987)-1985 VTTS study	95.5	Commuting	Car	12,82
33	North-Europe	UK	MVA et al. (1987) 1985 VTTS study	88.0	Others	Car	12,82
34	North-Europe	UK	Bates (1987) (Route choice)	65.0	Interurban	Car	17,73
35	North-Europe	UK	Bates (1987) (Route choice)	43.0	Commuting	Car	17,73
36	North-Europe	UK	Polak et al. (1993)	34.0	Commuting	Car	17,39
37	North-Europe	UK	Polak et al. (1993)	22.0	Others	Car	17,39
38	North-Europe	UK	Gunn et al. (1996) related to 1994	108.0	Employer's business	Car	18,7
39	North-Europe	UK	Gunn et al. (1996) related to 1994	35.0	Commuting	Car	18,7
40	North-Europe	UK	EURET (1994)	95.0	Employer's business	Car	18,7
41	Center South-Europe	The Netherlands	Atkins (1994)	23.0	Employer's business	Car	23,12

Table 12 (continued)

Number	Region	Country	Author(s)	VTTS as % of wage rate	Trip purpose	Mode	Per capita GDP, thousands of USA Dollars
42	Center South-Europe	The Netherlands	Atkins (1994)	45.0	Commuting	Car	23,12
43	Center South-Europe	The Netherlands	Atkins (1994)	27.0	Others	Car	23,12
44	Center South-Europe	The Netherlands	Wardman and Mackie (1997)	31.0	Commuting	Car	23,37
45	Center South-Europe	The Netherlands	Wardman and Mackie (1997)	33.0	Others	Car	23,37
46	Center-South-Eur.	The Netherlands	Data of 1988 in HCG (1998)	171.0	Employer's business	Car	18,16
47	Center South-Europe	The Netherlands	Data of 1988 in HCG (1998)	51.5	Commuting	Car	18,16
48	Center South-Europe	The Netherlands	Data of 1988 in HCG (1998)	41.0	Others	Car	18,16
49	Center South-Europe	The Netherlands	Data of 1988 in HCG (1998)	167.0	Employer's business	Train	18,16
50	Center South-Europe	The Netherlands	Data of 1988 in HCG (1998)	59.0	Commuting	Train	18,16
51	Center South-Europe	The Netherlands	Data of 1988 in HCG (1998)	40.0	Others	Train	18,16
52	Center South-Europe	The Netherlands	Data of 1988 in HCG (1998)	166.0	Employer's business	Bus	18,16
53	Center South-Europe	The Netherlands	Data of 1988 in HCG (1998)	48.0	Commuting	Bus	18,16
54	Center South-Europe	The Netherlands	Data of 1988 in HCG (1998)	28.0	Others	Bus	18,16
55	Center South-Europe	The Netherlands	EURET (1994)	150.0	Employer's business	Car	23,12
56	Center South-Europe	Germany	PLANCO and Heusch-Boesefeldt (1991)	141.0	Employer's business	Car	25,22
57	Center South-Europe	Germany	PLANCO and Heusch-Boesefeldt (1991)	57.0	Commuting	Car	25,22

Table 12 (continued)

Number	Region	Country	Author(s)	VTTS as % of wage rate	Trip purpose	Mode	Per capita GDP, thousands of USA Dollars
58	Center South-Europe	Germany	EURET (1994)	129.0	Employer's business	Car	26,29
59	Center South-Europe	Germany	BMW (1994)	342.0	Employer's business	Car	26,29
60	Center South-Europe	Germany	BMW (1994)	176.0	Commuting	Car	26,29
61	Center South-Europe	Germany	BMW (1994)	71.0	Others	Car	26,29
62	Center South-Europe	France	EURET (1994)	84.0	Employer's business	Car	23,71
63	Center South-Europe	Austria	Transprice 1997	13.0	Employer's business	Car	24,83
64	Center South-Europe	Italy	EURET (1994)	151.0	Employer's business	Car	18,83
65	Center South-Europe	Portugal	EURET (1994)	285.0	Employer's business	Car	9,34
66	North-America	USA	Mohring (1961)	32.5	Commuting	Car	12,77
67	North-America	USA	Claffey (1961)	65.0	Interurban	Car	12,86
68	North-America	USA	Becker (1965)	42.0	Commuting	Car	15,16
69	North-America	USA	Lisco (1967)	45.0	Commuting	Car	16,2
70	North-America	USA	Thomas (1967)	72.0	Commuting	Car	16,2
71	North-America	USA	Oort (1969)	33.0	Commuting	Car	17,16
72	North-America	USA	Thomas and Thompson (1970)	62.5	Interurban	Car	17,03
73	North-America	USA	Talvittie (1972)	13.0	Commuting	Car	18,21
74	North-America	USA	McFadden and Reid (1975)	28.0	Commuting	Car	18,55
75	North-America	USA	McDonald (1975)	61.5	Commuting	Car	18,55
76	North-America	USA	Guttman (1975)	63.0	Leisure	Car	18,55
77	North-America	USA	Guttman (1975)	145.0	Commuting	Car	18,55
78	North-America	USA	Nelson (1977)	32.5	Commuting	Car	20,1

Table 12 (continued)

Number	Region	Country	Author(s)	VTTS as % of wage rate	Trip purpose	Mode	Per capita GDP, thousands of USA Dollars
79	North-America	USA	Chui and McFarland (1985)	25.0	Interurban	Car	23,48
80	North-America	USA	Deacon and Sonstelie (1985)	82.0	Interurban	Car	23,48
81	North-America	USA	Chui and McFarland (1987)	82.0	Interurban	Car	24,62
82	North-America	Canada	Cole Sherman (1990)	170.0	Commuting	Car	23,61
83	North-America	Canada	Cole Sherman (1990)	165.0	Leisure	Car	23,61
84	Oceania	Australia	Hensher (1977)	39.0	Commuting	Car	5,56
85	Oceania	Australia	Hensher (1977)	35.0	Leisure	Car	5,56
86	Oceania	Australia	Hensher and McLeod (1977)	20.0	Leisure	Car	5,56
87	Oceania	Australia	Hensher and Louviere (1982), cited in Hensher (1989)	46.0	Commuting	Car	5,42
88	Oceania	Australia	Hensher and Truong (1985)	153.0	Leisure	Car	4,11
89	Oceania	Australia	Hensher (1989)	36.0	Commuting	Car	5,08
90	Oceania	Australia	Hensher and Beesley (1990)	34.0	Commuting	Car	4,97

References

Algers S, Dillen JL, Widlert S (1996) The national Swedish value of time study. Value of Time Seminar, PTRC England

Armstrong P, Garrido R, De Dios Ortuzar J (2001) Confidence Intervals to Bound the Value of Time. Transp Res E 37:143 161

Atkins WS (1994) Cambridgeshire County Council: stated preference project. W. S. Atkins, Epsom, Surrey, England

Baaijens SR, Nijkamp P, Van Monfort K (1997) Explanatory meta-analysis for the comparison and transfer of regional tourist income multipliers. Reg Stud 32:839 849

Bates J (1987) Measuring Travel Time Values with a Discrete Choice Model: A note. Econ J 97:493 498

Becker G (1965) A theory of the allocation of time. Econ J 75:493 517

Beesley ME (1965) The value of time spent travelling: some new evidence. Economica 32:174 185

BMW (1994) Calculations of the social costs of congested traffic. BMW Munich, mimeo

Cendron A (2004) Meta-analysis: methodological issues and empirical applications with reference to the value of time in passengers transport. BSc Thesis, Faculty of Statistics, University of Bologna, Bologna (in Italian)

Cherchi E (2003) Il Valore del Tempo nella Valutazione dei Sistemi di Trasporto (The Value of Time in Travel Systems Evaluation). FrancoAngeli, Milano

Appendix E. Median Regression Estimates of Parameters Describing the Determinants of *x*, Coefficients and Their Standard Errors, N = 96

Variable	
U.S.	0.250 (0.078)
Year Published	0.0051 (0.0023)
Pseudo-R^2	0.075